NATUR CYMRU

A Review of WILDLIFE in Wales

Rhif/Number 2 • Gaeaf/Winter 2001

- **Ronald Lockley,** *a tribute to a great naturalist*
- **Going wild in the uplands –** *return of nature after foot and mouth*
- **Climate change on Snowdon –** *what does it mean for wildlife?*
- **A spiritual place:** *Bardsey and other nature reserves*
- **Conserving lawn fungi –** *home to a wealth of waxcaps*
- **Adar ysglyfaethus yng Nghymru** *yn y flwyddyn 2000*

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Tanysgrifiadau: £10 y flwyddyn. A fyddech gystal ag anfon sieciau yn daladwy i :
Subscriptions: £10 per year. Please send cheques payable to Natur Cymru to:
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Cyhoeddir erthyglau yn yr iaith wreiddiol. Mae crynodeb yn yr iaith arall yn dilyn pob erthygl. Ceir rhai colofnau arferol yn y ddwy iaith. Os dymunwch gael cyfieithiad o unrhyw erthygl, cysylltwch â'r golygydd.

Articles are published in the language in which they are submitted. They are followed by summaries in the other language, and some regular columns appear in both languages. If you would like to receive a translation of any article, please contact the editor.

Cyhoeddir *Natur Cymru* dair gwaith y flwyddyn, ar ddiwedd Chwefror, Mehefin, a Hydref (rhifynnau Gwanwyn, Haf, a Gaeaf). Cefnogir y cylchgrawn gan bartneriaeth o gyrff sy'n aelodau o Grŵp Bioamrywiaeth Cymru. Y rhain yw: Cyngor Cefn Gwlad Cymru, y Comisiwn Coedwigaeth, Cynulliad Cenedlaethol Cymru, Amgueddfeydd ac Orielau Cenedlaethol Cymru, Cymdeithas Frenhinol er Gwarchod Adar, Ymddiriedolaethau Bywyd Gwyllt Cymru a WWF.

Natur Cymru is published three times per year, at the end of February, June and October (Spring, Summer and Winter issues). It is supported by a partnership of organisations which are members of the Wales Biodiversity Group. They are: Countryside Council for Wales, Forestry Commission, National Assembly for Wales, National Museums and Galleries of Wales, Royal Society for the Protection of Birds, Wildlife Trusts Wales and WWF.

Bwriedir i *Natur Cymru* hyrwyddo a chyfnewid gwybodaeth am fioamrywiaeth a hyrwyddo dadl. Nid yw'r farn a fynegir yn y cylchgrawn hwn o anghenraid yn farn y noddwyr. Anfonwch erthyglau ar gyfer y rhifyn nesaf, yn y Gymraeg neu'r Saesneg, erbyn diwedd mis Rhagfyr. Os oes gennych wybodaeth, erthyglau neu waith celf y credwch a allai fod o ddiddordeb i'r darllenwyr, cysylltwch â'r Golygydd os gwelwch yn dda.

Natur Cymru is intended to promote the exchange of information about biodiversity and encourage debate. The views expressed in this magazine are not necessarily those of the sponsors. Please submit articles for the next issue, in Welsh or English, by the end of December. If you have information, ideas for articles or artwork which you think might be of interest to readers, please contact the Editor.

Mae Natur Cymru wedi'i argraffu ar bapur di-glorin/Natur Cymru is printed on chlorine-free paper.
Llun y clawr/Cover photo: Ray Woods

ISBN: 1 86169 095 9

Cynhyrchwyd gan/produced by: Hughes Design Limited Prestatyn (01745) 888828 Argraffwyd gan/Printed by: Powlsons, Colwyn Bay

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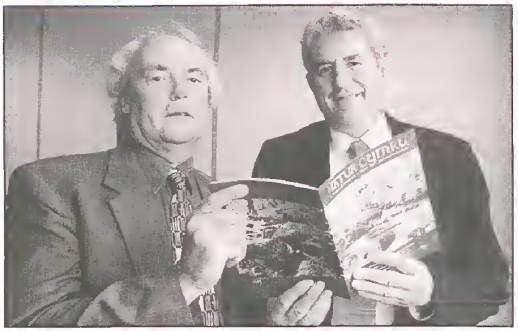


John Lloyd Jones a Rhodri Morgan ar achlysur lansio Natur Cymru.

Mae'n amlwg mai dyma'r amser iawn i gael llais newydd i'r amgylchedd yng Nghymru. Cafodd *Natur Cymru* dderbyniad gwresog ac mae nifer y tanysgrifwyr y tu hwnt i'r disgwyl.

Adeg lansio'r cylchgrawn, rhoddodd y Prif Weinidog, Rhodri Morgan, gefnogaeth frwd i'r fenter. Ac fe roddodd her. Roedd tro trwy'r caeau o amgylch ei gartref wedi deffro atgofion am ei blentyndod. Roedd porfeydd moelion wedi eu trawsnewid yn ddolydd llawn blodau. Awgrymodd fod symud stoc a chau llwybrau mewn sawl rhan o'r wlad wedi rhoi cyfle unwaith-mewn-oes i weld beth fyddai'n digwydd i fyd natur heb bwysau pobl a phori. A oedd unrhyw un yn monitro'r newidiadau?

Efallai mai llygedyn bychan o oleuni yw hwn trwy gwmwl tywyll iawn, ond mae argyfwng byd amaeth wedi rhoi cip i ni i gyd ar yr hyn a allai ddigwydd pebai llai o dda byw. Yn y rhifyn hwn, mae Mick Green yn amau ai ffermio anifeiliaid yn ddwys yw'r ateb gorau bob tro i'r ucheldiroedd, ac mae Duncan Brown yn galw am sylwadau ar yr effaith posibl y gallai llai o bobl ac anifeiliaid pori fod wedi'i gael ar fywyd gwyllt.

Fu yna erioed fwy o angen i fesur yr hyn sy'n digwydd yn yr amgylchedd, oherwydd mae'r newidiadau'n fwy nag erioed. Mae straeon am ledaeniad rhywogaethau o'r de yn gyffredin heddiw. Mae'n ymddangos fod pryf copyn crynwe prydferth gyda brathiad gwenwynig, y pryf copyn cacynnaidd, yn ymsefydlu yn ne Prydain. Mae rhai o drigolion y cefnforoedd trofannol, fel y crwban môr cefn-lledr a welwyd yn ddiweddar ger Ynys Môn, yn ffeindio'u ffordd yn fwyfwy cyson i ddyfroedd ger ein glannau ni.

Mae tri o'n cyfranwyr yn ystyried goblygiadau newid hinsawdd i'n hamgylchedd: mae John Farrar yn egluro'r hyn a wyddon ni am newid hinsawdd a'r hyn sydd angen ei wneud i ymateb iddo; mae Clive Walmsley yn disgrifio rhai o'r newidiadau amgylcheddol sydd wedi eu mesur mewn gorsaf fonitro arbennig ar yr Wyddfa; tra bod Rory Francis yn creu darlun tywyll o'r hyn a allai ddigwydd i'n coedydd. Daw i'r casgliad fod rhaid i bolisïau cadwraeth ystyried angen byd natur i addasu i hinsawdd gyfnewidiol.

Mae natur mor amrywiol fel na fydd yna fyth brinder o bynciau i ysgrifennu amdanyn nhw ym maes bywyd gwyllt: yma mae'r dyn adar, Iolo Williams, yn adrodd am gyflwr adar ysglyfaethus yng Nghymru, a Ray Woods yn cynnig pwnc clawr rhifyn yr hydref – capiau cwyr. Mae yna bynciau dynol hefyd: David Saunders sy'n talu teyrnged i naturiaethwr o fri, Ronald Lockley; ac mae Peter Hope Jones, yn ystyried gwerth ysbrydol gwarchodfeydd natur o'r fath. Waeth beth fo eich diddordebau, gobeithio y bydd rhywbeth yma i godi eich calon.

James Robertson

Morgan Parry yn siarad ar adeg y lansio.

Editorial

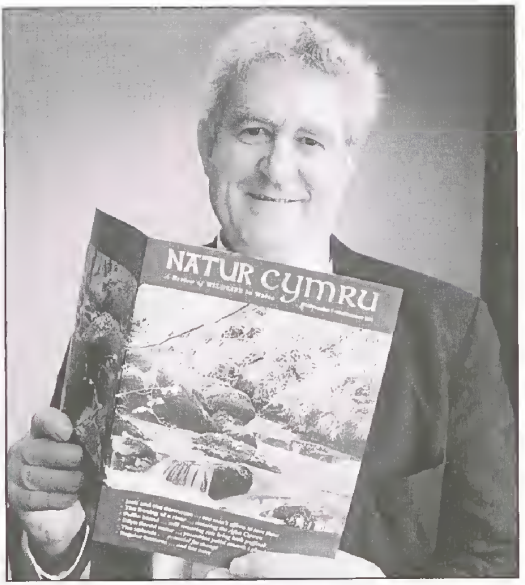
The time is obviously right for a new voice for the environment in Wales. *Natur Cymru* has had a warm reception, and the number of subscribers has greatly exceeded expectations.

The First Minister, Rhodri Morgan, gave his enthusiastic support to the venture at our launch. He also threw out a challenge. A walk through the fields around his home had conjured up his childhood. Tightly grazed pastures had been transformed into flower-filled meadows. The removal of stock and the closure of footpaths in many parts of the country had, he suggested, created a once-in-a-generation chance to see what would happen when nature was released from people and grazing pressure. Was anyone monitoring the changes?

It may be a silver lining to a very dark cloud, but the crisis in farming has given us all a glimpse of what could happen in places where livestock numbers have been reduced. In this issue, Mick Green wonders whether intensive livestock farming is always the best option in the uplands, while Duncan Brown wants us to record the effects that fewer people and grazing animals may have had on wildlife.

The need to monitor what is going on in the environment has never been greater, because the changes that are happening are more profound than ever. Stories about the spread of southern species are common these days. A beautiful orb web spider with a venomous bite, the wasp spider, is apparently establishing itself across southern Britain. Tropical ocean-dwellers like the leatherback turtle, recently seen off Anglesey, are making their way more and more regularly into the seas around our coast.

Three of our contributors explore the implications of climate change for our environment: John Farrar explains what we know about climate change and



First Minister, Rhodri Morgan, launching Natur Cymru.

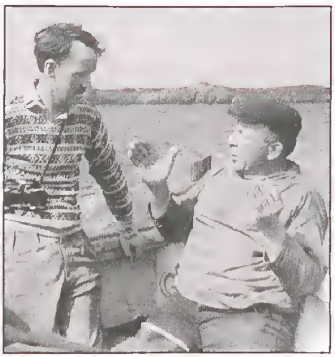
what we need to do in response to it; Clive Walmsley describes some environmental changes which have been measured at a special monitoring site on Snowdon; while Rory Francis paints a grim picture of what might happen to our woods. He concludes that conservation policies must take account of the need to allow nature to adapt to a changing climate.

Nature is so diverse that there will never be a shortage of wildlife subjects to write about: here TV birdman Iolo Williams provides a report on the status of raptors in Wales, and Ray Woods gives us our autumnal cover subject – waxcaps. There are human subjects, too: David Saunders pays tribute to a great naturalist, Ronald Lockley; and Peter Hope Jones reflects on the spiritual value of nature reserves like Bardsey. Whatever your interests, I hope there is something here to lift your spirits.

James Robertson

Ronald Lockley,
a tribute to a great naturalist

David Saunders
recalls the contribution to the natural history of Wales made by Ronald Lockley with special reference to the journal Nature in Wales.



Ronald Lockley and Edgar Sturley off Skokholm in 1939.

Ronald Lockley with Skomer Vole outside the Skomer farmhouse in 1946.

David Saunders and Ronald Lockley en-route to Skokholm, May 1991.

Although Ronald Lockley, or as he appears in his numerous publications, R.M. Lockley, will be best remembered for his 58 books, naturalists should not overlook his considerable output of both popular articles and scientific papers. The first scientific paper appeared in 1930. Appropriately, in view of his passionate quest over seven decades of the Manx Shearwater and its allies, it was entitled *On the breeding habits of the Manx Shearwater, with special reference to its incubation and fledgling periods* (*British Birds 25:* 202-218).

This was to be followed by no fewer than 32 papers and notes on various aspects of the avifauna of Skokholm, which he contributed to the same journal before he left the island in 1940 because of the war. This was a formidable contribution from someone with no previous scientific background who at the same time had to make his living from sheep farming, fishing, visitors to the island and his popular writing. His first book *Dream Island* was published in 1930. There followed eight other titles by the time *Shearwaters* appeared in 1942, not forgetting his articles, especially those which appeared quarterly in *The Countryman* from 1931 until one appropriately titled *Au revoir Skokholm* a decade later.

Another significant initiative was his publication in 1937 of the first Skokholm Bird Observatory Report for 1936. Just eleven pages in length and with the systematic bird list as the main feature, it established a format that has hardly changed across three-quarters of a century. Four further reports were published before the Observatory closed down in 1940.

Despite his Skokholm activities and travels, which took him to islands from the Westmann Islands off Iceland to the Salvages north of the Canaries, in 1938 Lockley took a leading role in the foundation of the Pembrokeshire Bird Protection Society, serving first as Secretary, later Chairman. In 1945 the Society became the West Wales Field Society, followed by later changes – in identity but not in purpose – to the Wildlife Trust West Wales. The annual reports of the Society up to 1954 provided a means for short papers of natural history interest to be published with Lockley's guiding hand much in evidence.

This slender annual publication had limitations and in February 1950 the West Wales Field Society, with Bill Condry as its Editor, began to publish regular Field Notes, usually four foolscap duplicated pages. In all, 19 editions appeared, the last in September 1954. Lockley himself was later to pay tribute to the value of the notes, describing them as popular and carrying 'the interest of naturalists and the respect due to their scientific integrity wherever the Notes have travelled.'

The Field Notes also proved an invaluable catalyst for a more substantial publication. The journal *Nature in Wales*, first mooted in 1953, was launched in the spring of 1955. Although initially very much the house journal of the West Wales Field Society, which then embraced Merioneth within its area of influence in addition to Carmarthen, Ceredigion and Pembroke, it nevertheless encompassed the natural history of the whole of Wales. Until 1961 *Nature in Wales* appeared quarterly, thereafter twice a year. In 1963 the North Wales Naturalists' Trust began to share the journal, and later the Brecknock, Herefordshire and Radnorshire Naturalists' Trusts joined in. The Editors of the new journal were Lockley himself, Bill Condry and Captain H.R.H. Vaughan, doyen of the Kite Protection scheme. There were subsequent changes of editor, but Lockley himself continued to be heavily involved until September 1970, a period which saw the publication of no fewer than 46 issues of Nature in Wales. As Dillwyn Miles, who had been Managing Editor in all but name from 1967, said in paying tribute to Lockley's singular contribution, his departure for New Zealand was a great loss to Wales, and without his inspiration and perseverance *Nature in Wales* would hardly have happened or survived. Indeed one wonders if Lockley had been around in the 1980s whether *Nature in Wales* would have ceased publication. He would most certainly have applauded the publication of *Natur Cymru* and in earlier years would have been an immediate contributor.

Ronald Lockley outside Skomer farmhouse in 1946.

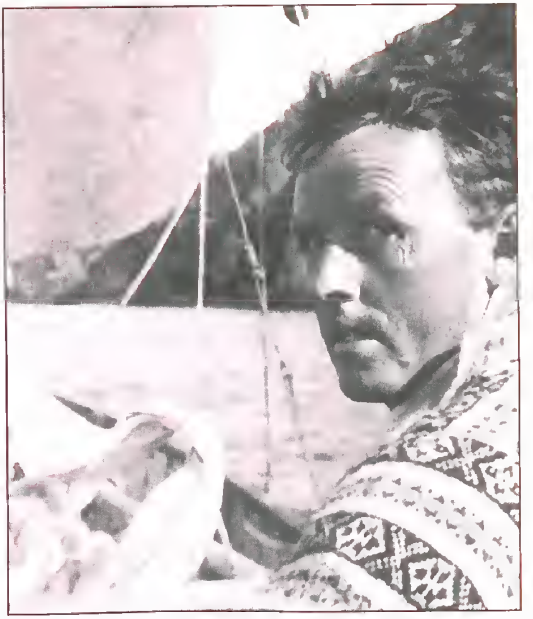
Lockley was much more than an Editor who continually strove to ensure that articles were published on their scientific merit 'consistent with readability.' He was a major contributor of papers on a range of subjects in addition to short notes and reviews. To serve as an editor of a journal for 16 years is a singular achievement. It was an achievement made even more remarkable as, at this time, he was running his farm at Orielton, pursuing his Rabbit and Grey Seal research projects, writing books and popular articles and eventually leaving Pembrokeshire for Devon. His departure for New Zealand followed, where his literary output continued unabated for many more years.

Ronald Lockley's passing aged 96 in April 2000 severs one of the last links with the great naturalists and nature conservationists of the early decades of the 20th century. Primarily remembered by a wider audience for his books, a formidable output by any standard, his singular contribution to the study of natural history in Wales and to the undoubted success of the now extinct *Nature in Wales* should not be overlooked.

On 1 June 2001 Ronald's daughter Ann, who lived as a child on Skokholm before the war, brought her family from New Zealand, while sons Martin and Stephen and their families came from the United States, and met with other family members and close friends on Skokholm. On that day Ronald's ashes were scattered on The Knoll, that slight rise which provides some shelter for the buildings, his home. One could not wish for a more appropriate resting place. Here the Manx Shearwaters, occupying burrows in the shallow soil and filling the air with their fantastic night-time calls, are likely to be descendants of the birds he first studied all those years ago.

Ronald Lockley published 14 papers in *Nature in Wales*, from *Observations on Myxomatosis in Wales* in 1955 to *Middleholm (Midland Isle), Pembrokeshire* in 1967.

Ronald Lockley on Grassholm in 1946.



Ronald Lockley at the helm of Storm Petrel *in 1939.*

Arloeswr

Pan fu farw Ronald Lockley yn 96 oed yn Ebrill 2000, torrwyd un o'r cysylltiadau ola' gyda naturiaethwyr mawr dechrau'r 20fed ganrif. Er ei fod fwya' enwog am ei lyfrau, fe wnaeth gyfraniad unigryw yng Nghymru trwy dorreth o erthyglau a thrwy olygu'r cylchgrawn *Nature in Wales* o 1955 hyd 1970. Roedd ei erthygl gynta' am aderyn drycin Manaw, yn 1930, pan oedd yn gofalu am yr Wylfa ar Ynys Sgogwm.

Dyna gyfnod dechrau'r rhestrau blynyddol o adar Sgogwm a helpu i greu Cymdeithas Warchod Adar Sir Benfro a ddatblygodd wedyn yn Ymddiriedolaeth Natur Gorllewin Cymru. Efallai na fyddai *Nature in Wales* wedi dod i ben pe na bai R.M. Lockley wedi symud i Seland Newydd yn 1970 – yn sicr byddai o blaid *Natur Cymru*. Ar Fehefin 1 eleni, gwasgarwyd ei lwch yn Sgogwm, yng nghwmni adar a oedd, efallai, yn ddisgynyddion i'r rhai a astudiodd ef.

Going wild *in the* **uplands** – *return of nature after foot and mouth*

In the wake of Foot and Mouth Disease, agricultural policy needs a re-think. Should we persevere with uneconomic hill farms for the supposed environmental benefits they bring? ***Mick Green*** *suggests that other kinds of landscape, not based on intensive livestock farming, could be much more rewarding.*

Feral goat – part of a wilder future for the uplands?

Foot and Mouth it seems does affect humans – it affects our memories and our sense of proportion. As the disease continues its hold over British agriculture we are told that it is a 'disaster' not only for those farmers affected by it, but for the whole countryside. Without the grazing animals we are told the countryside will turn into a 'wilderness'; tourists, who apparently only come to see our perfectly manicured hills, will disappear and we will be left with nothing.

Personally, I've been vaccinated against this and would like to question the notion of our 'traditional' countryside and look at the opportunities that a reduction in grazing may bring.

There is nothing really 'traditional' about our landscape – it is in a constant state of flux that goes with the differing land-use trends, national and international economics and many other variables. Any one vision of our landscape is just a snapshot in time – we may suffer 'hiraeth' for an imagined utopian past, but it never really existed. Our farming in the uplands of Wales is said to be 'traditional' and vital for the maintenance of the landscape and the Nature it supports, but what is traditional about big-bale silage, ATVs or even barbed wire? Sheep numbers in Wales are at an all time high, whereas grazing by cattle, especially in the uplands has declined. Large scale forestry plantations have been developed in Wales mainly within my lifetime, along with re-seeding of many upland pastures. Transhumance was still practised until relatively recently, with the Hafods each having their own few fields of in-bye land with all the associated

plants and insects that evolved with this management regime. Now we have large-scale ranching of sheep over large areas of our hills with resultant changes in vegetation, birds and insects. Windfarms have appeared on our hills, which their opponents say ruin the 'wilderness' of our uplands – is this the same wilderness we seem afraid of creating by reducing or removing grazing from the hills?

We do in Britain seem curiously afraid of Nature – we spend a large part of our conservation budget hacking back at it, trying to contain and control it in small Nature Reserves, made to our own design. Our National Parks were created to 'preserve and enhance' the natural beauty of the area – preservation gives the idea of stopping change and holding the landscape at one point in time, whereas enhancing leads us to think we can improve on the natural, perhaps with some romantic, picturesque vision.

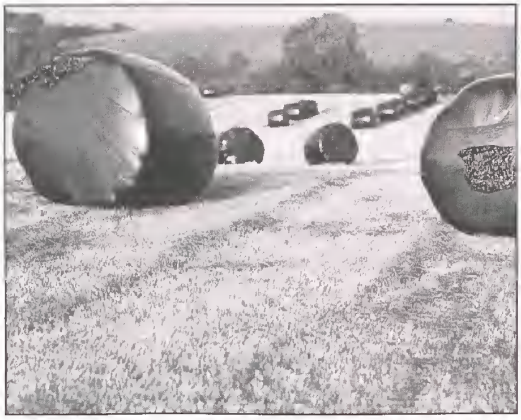
We have the Tir Gofal agri-environment programme where farmers are paid to manage habitats according to national prescriptions. These prescriptions are based on our Biodiversity Action Plans (BAP), but again, these are designed to conserve Nature as seen in a snapshot of time.

A lot of habitats selected as important by the BAP process are what we would call at the best 'semi-natural' and in some cases completely human-made. These include lowland wood pastures and parkland; boundary features; lowland heathland; grazing marsh and cereal field margins – all of which are contrived or heavily human-influenced habitats that require our continued management to ensure their survival. Similarly, many of the species that are now in decline, such as the red grouse, and even the humble skylark, probably only reached the high populations recorded this century (and detailed recording of species numbers was only really started post-war) because of the way we were managing the land.

If we look closely at the species and habitats chosen, we are looking at what is perceived to be a 'golden age' of biodiversity – that of the pre-war countryside. A countryside that is within the folk memory of the current decision-making generation and one which for the first time was reasonably well documented. It is beyond serious argument that it contained a much richer, more diverse Nature than we have now, and that modern farming, pollution and urban growth have been the major causes of decline. But why do we want to return to this supposed utopia of biodiversity? Why do we not go back another generation or so, before the Victorian gamekeepers had destroyed large populations of predators, or back a further generation before the age of enclosure? Are the ecological assemblages found then not equally valid for restoration? By choosing habitats that require constant management based on defunct farming practices, we are also committing ourselves to indefinite costs to maintain them.

As I write, a UK 'Hill Farms Task Force' is recommending to Government that it creates a 'hill environment land management payment' to 'recognise the value of hill farms to environmental protection, maintenance of the countryside and rural communities'. This is premature, and we need to debate whether hill farming is always beneficial to 'environmental protection'. I would argue that it is not. Land is not just a commodity, a 'factory floor' for the farmer, or a view to be 'consumed' by the tourist. It has a value beyond this.

Much of our uplands will probably never be economic to farm. Few farms now make their living purely from the uplands, and many are combined with lowland holdings. Therefore, why should we pay to continue to farm these areas? The argument is that without farming, as we have seen above, they will return to 'wilderness'. Well, I vote for the wild – areas without commercial grazing which can provide public goods in the form of Nature, recreation and perhaps even help towards alleviating flooding problems by slowing run-off. Without commercial grazing, the moorland ecosystems will change, but not necessarily for the worse. Many areas will still have grazing from deer and feral goats, others may return to patchy woodland and open glades.



21st century 'traditional' farming.

We can look elsewhere for models of this approach. In Oostvaarderplassen, in the Dutch polders, a large area has been left to return to the wild. The approach in this area is to allow Nature to take its course with as little human intervention as possible. Large herbivores, in the form of wild cattle, ponies and deer, are allowed to fulfil their primary role as they did in former ecosystems. This approach has led to a natural landscape, with large areas kept open by the grazing animals, while others vary from scattered trees to dense woodland – a mosaic landscape providing habitats for a wide range of species.

We should not be afraid of letting Nature regain control of some of our wilder habitats, and the current 'crisis' should be used as a time for informed debate as to the future of the farmed landscape. This should start with ending the pre-supposition that because farming has shaped the 'traditional' landscape, we are stuck with this framework. The nature of farming, and the nature of much of our landscape, is constantly changing.

I for one do not want to retain the overgrazed, lifeless hills that are the product of current farming practices.

Mick Green was formerly Liaison Officer for The Wildlife Trusts in Wales, and more recently their Marine Policy Officer.

Rhoi'r ucheldir yn ôl i Natur

Mae ***Mick Green*** *o Ymddiriedolaethau Natur Cymru yn amau a yw dwy'r traed a'r genau yn drychineb mor fawr â hynny i gefn gwlad …*

Does dim yn draddodiadol am fyrnau mawr, beiciau pedair olwyn na weiren bigog tra bod y cynnydd anferth mewn defaid wedi amharu ar blanhigion, adar a thrychfilod. Mae arnon ni ofn Natur – ryden ni'n gwario arian cadwraeth ar geisio'i rheoli a'i chadw, yn ôl ein syniad rhamantus ni o gefn gwlad fel yr oedd cyn y rhyfel. Er bod mwy o amrywiaeth bryd hynny, pam nad oes modd mynd yn ôl i'r dyddiau cyn i'r stadau mawr ddistrywio llawer o anifeiliaid ysglyfaethus a chau tiroedd?

Mae angen holi a yw ffermio tir uchel wastad o les wrth warchod yr amgylchedd – pam ddylen ni barhau i dalu am amaethu'r tiroedd hyn? Gallai ucheldiroedd gwyllt gynnig nwyddau cyhoeddus ar ffurf Natur a hamdden, ac mae cynllun yn yr Iseldiroedd yn dangos fod creaduriaid gwyllt sy'n pori yno yn helpu i gynnal tirwedd amrywiol. Rhaid inni beidio ag ofni rhoi rhai o'n cynefinoedd mwy gwyllt yn ôl yn nwylo Natur ac mae'r 'argyfwng' presennol yn gyfle i drafod dyfodol tirwedd amaethyddol. Dydw i ddim eisiau'r bryniau moel, difywyd sy'n gynnyrch ffermio heddiw.

Tufted grasses, Berwyn Mountains; a home to more than sheep.

Clwy'r traed a'r genau: *arbrawf byw?*

Mae llawer o newidiadau wedi bod yng nghefn gwlad mewn cyfnod byr. Caewyd llwybrau cerdded a newidiodd patrymau pori. Mae lladd anifeiliaid a chyfyngu ar eu symudiadau wedi effeithio ar fywyd gwyllt. Mae ***Duncan Brown*** *yn credu y dylem gofnodi ein sylwadau ynglŷn ag effeithiau'r drychineb ar yr amgylchedd cyn iddynt ddiflannu o'r cof.*

Tylluan wen.

Ar ôl haf eithriadol o boeth y flwyddyn 1976 cynhaliodd y Cyngor Gwarchod Natur, yn eu doethineb ar y pryd, arolwg brys o effeithiau'r gwres eithriadol yn ystod y gaeaf canlynol tra'r oedd digwyddiadau'r cyfnod yn dal yn y cof. Cafwyd adroddiad swmpus wedi ei seilio ar gyfweliadau gyda nifer helaeth o bobl a oedd yn gweithio yng nghefn gwlad ar y pryd ar hyd a lled gwledydd Prydain. Eleni cawsom sefyllfa lawn mor eithriadol a'r sefyllfa honno ar ffurf tri mis o wahardd y cyhoedd o unrhyw dir glas bron, a gostyngiad sylweddol yn y nifer o ddefaid a gwartheg mewn rhai ardaloedd. Ni welaf unrhyw arwydd o unrhyw gorff yn comisiynu arolwg o effeithiau posibl hyn, tebyg i honno ym 1976.

Fodd bynnag gallasem o leiaf gofnodi unrhyw sylwadau sydd gennym ar ddwy agwedd ar y clwyf, sef

i) effeithiau absenoldeb y cyhoedd o dir fyddai fel arall yn ferw o gerddwyr, a
ii) effeithiau absenoldeb pori gan dda byw (neu bwysau uwch mewn rhai mannau efallai) ar gaeau, ffriddoedd a thir mynydd.

Er mwyn clirdeb dyma rai cwestiynau sydd wedi codi eisoes, a rhai sylwadau sydd wedi eu derbyn eisoes:

- Tybed a gafodd yr hutan fynydd fwy o lonydd, ac felly mwy o gyfle nac arfer i nythu ar y Carneddau?
- Tybed a gymerodd y dylluan wen fwy o lygod pencrwn y gwair wrth i'r borfa dewychu yn absenoldeb defaid mewn rhai mannau?
- Tybed a gafodd y dyfrgwn ar ein hafonydd fwy o lonydd nac arfer i fagu?
- Gwelodd Richard Stone adar megis corhedydd y waun yn nythu ar lwybrau'r Wyddfa yn fuan ar ôl i'r llwybrau gael eu hail hagor.
- Roedd blodau cnau daear yn drwch yn y caeau di-ddefaid o gwmpas Pontrug yn anterth yr argyfwng (yr awdur).
- Ar 6 Gorffennaf 2001, ni welodd y botanegydd Peter Benoit lystyfiant cors heli Ynys Mochras mewn cyflwr mor drwchus a thal.

Os oes gennych sylwadau am unrhyw beth yr ydych yn tybio sydd yn ganlyniad i glwy'r traed a'r genau, yna, os gwelwch yn dda anfonwch hwy naill ai at olygydd y cychgrawn, neu at Duncan Brown, CCGC, Maes y Ffynnon, Penrhosgarnedd, Bangor, Gwynedd. LL57 2DN, gan obeithio y bydd rhyw flas ar y flwyddyn eithriadol hon yn mynd ar gof a chadw.

Foot and mouth disease:
a live experiment?

It has been a year of sudden change in the countryside. Footpaths have been closed and grazing patterns broken; the slaughter of livestock and restriction of their movements has had an impact on wildlife. ***Duncan Brown*** *thinks we should record our observations on the effects of the crisis on the environment before they fade from memory.*

Otter.

After an exceptionally warm summer in 1976, the Nature Conservancy Council wisely conducted a vital survey during the following winter into the effects of that summer's heat on the countryside, before those effects had faded in our memory. A substantial report was produced based on interviews conducted with a large number of people from all over Britain who worked in the countryside at the time.

During 2001 we experienced a similar, exceptional situation in the form of the exclusion of the public from almost all our lands as well as a great reduction in the numbers of sheep and cattle in some areas. There is no sign that any organisation is preparing to conduct a survey, similar to the 1976 project, on the effects of such factors on the countryside.

I suggest that we should record our observations on at least two facets of the situation:

i) the effects of the absence of people on land which otherwise would be packed with walkers, and
ii) the effects of the absence of grazing animals (or of greater grazing pressure in other areas) on fields, hillsides and mountains.

The following are questions which have been asked already, or observations which have been received:

- given that the dotterel faced very little disturbance, did it have greater nesting success in the Carneddau this year?
- did the barn owl catch more short tailed voles in the denser pasture which resulted from reduced grazing by sheep?
- did otters have greater breeding success because they were not being disturbed?
- Richard Stone noticed, shortly after paths had been re-opened, that birds such as the meadow pipit had nested on the Snowdon footpaths.
- pignut flowers were abundant in the sheep-less fields around Pontrug at the height of the epidemic (author).
- on the 6th of July 2001, botanist Peter Benoit remarked that he had never before seen such tall and dense saltmarsh vegetation on Mochras (Shell Island).

If you have any observations to make on anything which you believe is the result of the foot and mouth epidemic, please send them to the editor of *Natur Cymru* or direct to Duncan Brown, CCW, Maes y Ffynnon, Penrhosgarnedd, Bangor, Gwynedd. LL57 2DN, so that they can be recorded and kept.

Will there be nightingales? – *climate change in Wales*

Human-induced climate change is now an accepted fact. What effect will it have on the Welsh environment? ***John Farrar*** *discusses our uncertain climatic future, and its implications for the environment and development.*

Craig Goch Dam and Reservoir, Elan Valley.

Wind farms, problem or solution?

Groynes on Prestatyn beach.

Wales is endowed with a rich and varied natural environment, of value in its own right, as a spiritual resource for the people, and as a prerequisite for the economically important outdoor tourism industry. More than a thousand designated sites testify to its quality. This rich heritage faces challenges locally from management, agriculture and development, which can be identified and evaluated relatively easily. It also faces less easily quantified challenges from non-local sources such as pollution and global climate change. Global climate is indeed changing; due to mankind's continued emission of greenhouse gases, the 1990s was the warmest decade for 1,000 years; arctic ice thickness has decreased by 40%; global temperature and rainfall are rising. Wales is not immune to these global changes. A study which the University of Wales, Bangor co-ordinated for the Assembly included state-of-the-art modelling of the future Welsh climate by the Climatic Research Unit, UEA, and expert and stakeholder analyses of what that climate could mean for our natural heritage.

What will happen to the climate?

Wales will become steadily warmer: by 2080 average temperatures will rise by 1.1 – 2.9°C. It will be wetter in winter, with 7 – 24% more precipitation, but drier in summer, with 7 – 14% less. These changes will be superimposed on the current climate in all parts of Wales. But these averages are only half the story. The variability of the climate will be much greater. There will be more drought years, more wet years, more extreme years. More of the rain will fall in intense, violent storms, and there will be more severe gales. Last autumn's heavy rain and flooding

are typical of the predictions of climate change studies. Flooding will become up to 10 times as frequent, in part because sea level will rise by 18 – 79cm. It's unwise to use geographical comparisons ('like the climate of Brittany') because they do not encompass these extremes. The ranges in these predictions depend largely on whether people continue to add greenhouse gases to the atmosphere at the current rate, or greatly reduce emissions. The climate models that are used, and the knowledge on which they are based, are continually improving, and so predictions will improve. We must learn to live with a degree of uncertainty in the predictions.

How we know it's changing – indicators

Although we know that the climate is changing, we need indicators to be sure these changes are affecting the environment (and the economy). Together with the Centre for Ecology and Hydrology, we are currently exploring suitable indicators of the unique environment of Wales for the Assembly, since the indicators defined for the UK by DETR may not be the most appropriate. Although Wales has three sites in the Environmental Change Network (one terrestrial and two freshwater), they do not have long historical runs of data.

What will be affected?

Climate change will influence natural and managed environments and commercial enterprises. Water management will be particularly important; biodiversity, key habitats and land use will all be affected to a greater degree than, for example, human health or transport.

Water will be a key issue. Ironically, there will be both too much, with flooding in winter, and too little; water supply may be unable to meet summer demand over a significant proportion of Wales by 2025. Since it often takes 20 years to plan and build a reservoir, we just have time to put infrastructure in place. Although the water supply industry is acutely aware of the issues, the regulators of the water (and power) utilities set goals for their sectors which take no account of long-term environmental factors.

The option of irrigating either farmland or key habitats such as wetlands will therefore be limited, even though summer droughts are probable.

Much low-lying coastal land in Wales is critical economically, for housing, for tourism, or for its natural habitats, so flood defence will be a major issue. Both coastal flooding (due to sea level rise, plus storm surges and high waves in storms) and inland flooding (due to rain concentrated in intense episodes exceeding the capacity of rivers and storm drains) are likely to become up to ten times more frequent. There are clear implications for the planning of developments on areas which will be subject to flooding. At present, responsibilities for flood defence are complex and spread between NAW, the Environment Agency, and local government; a simpler system would help change. It can take a long time to plan and build flood defences, and their construction can lead to the destruction of important habitats. Wales' rural heritage is particularly sensitive to climate change. Agriculture and forestry will be faced with substantial challenges, since seasonality of grass growth, over-wintering of pests, heat stress of livestock, and international competition, will all alter. Adapting to this by changing variety or species of crop, or land use, should be possible.

The design of biodiversity action plans, and the criteria for designation of protected sites such as SSSIs and National Nature Reserves do not allow for the impacts of climate change. The range or frequency of individual species may increase (dormouse, nightingale, kingfisher, mistletoe) or decrease (arctic-alpine plants, dipper, Northern footman moth, bird cherry, arctic char). Whether they can migrate into or out of Wales will depend on the future of corridors of the appropriate habitats. Whole communities too will change – sand dunes (Morfa Harlech), estuaries (the Dee), and coastal marshes (Llanrhidian) will be at risk from increased flooding; raised bogs (Cors Tregaron) will be at risk from summer drought. The uplands may be particularly sensitive, and they are also being challenged by acid rain, ozone, and increased nitrogen deposition.

As agriculture adapts to changes of land use driven by climate change, the species and communities of Wales may be profoundly affected.

The development of green tourism could lead to greater respect for and protection of key habitats and species, but it may be seasonally restricted. Plans to extend tourism into the shoulder periods of autumn and summer may need to be revisited in the light of the worsening weather predicted for these seasons.

What Wales needs to do

Sadly, emissions of greenhouse gases from Wales rose 5% between 1990-95, compared with a fall of 10% for the UK as a whole. Only if we do much better at reducing our carbon dioxide emissions will we have a sustainable Wales. We need a higher proportion of renewable energy, from solar, hydroelectric, tidal and biomass sources. The challenge is to contribute to solving the global problem without sacrificing our local environment – planning to build wind turbines on SSSIs is bad for our natural heritage, and unwise for the developer, who can expect reasoned opposition. A good renewable energy strategy for Wales will be consistent with legislation on biodiversity and site designations. We have no idea whether Welsh vegetation and soils are a net source or sink of carbon.

But we must also adapt to the changing climate, since even if global emissions of greenhouse gases are significantly reduced, warming will continue for many years. Wales has the experience from the agri-environmental schemes Tir Cymen and Tir Gofal, and its three National Parks, of planning and decision-making across sectors and on a long time scale; this experience will be much needed. We need research targeted to the unknowns, particularly to impacts on upland habitats, agriculture and forestry. We need socio-economic scenarios in which climate change impacts are incorporated. We need a means of exchanging information and ideas at all levels. And we need climate change to be incorporated as a key component of sustainable development as the Assembly determines policy.

So will there be nightingales? Yes, and maybe more of them; but the many losses which will accompany this gain need to be minimised by early and sympathetic management.

To learn more: read our report to NAW at www.bangor.ac.uk/ies/ies.html, and see www.ukcip.org.uk, www.met-office.gov.uk/sec5/sec5pgl.html, and www.nationalgeographic.com/features/2000/physcial/climate/index.html.

Professor John Farrar is Director of the Institute of Environmental Science, University of Wales, Bangor.

A fydd eosiaid?
Effaith newid hinsawdd

Mae'r hinsawdd yn newid oherwydd pobl ac mae ymchwil dan adain y Brifysgol ym Mangor wedi creu model ar gyfer Cymru. Bydd cyfartaledd tymheredd yn codi, gyda rhagor o law yn y gaeaf a llai yn yr haf, a rhagor o dywydd eithafol, gyda blynyddoedd gwlyb iawn, blynyddoedd sych iawn a stormydd.

Dyma rai o'r effeithiau:

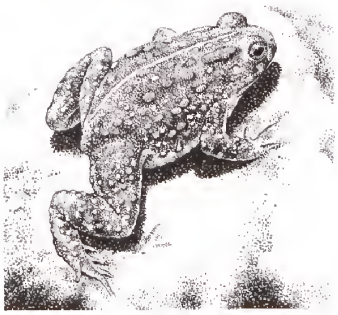
- Dŵr – gormod a rhy ychydig. Efallai na fydd digon yn yr haf erbyn 2025.
- Llifogydd – deg gwaith yn fwy aml, trwy'r llanw ac afonydd. Mae goblygiadau o ran cynllunio.
- Amaeth – bydd sialensau newydd.
- Cynefinoedd – bydd rhai'n newid yn fawr.

Dyma sydd ei angen:

- Torri'n ôl ar nwyon tŷ gwydr.
- Rhagor o ynni glân – heb amharu ar yr amgylchedd lleol.
- Ymchwil, cyfnewid gwybodaeth ac addasu.
- A fydd yna eosiaid? Bydd, ac efallai mwy … ond bydd angen rheoli buan a doeth i leihau'r colledion.

A midsummer night's nightmare – *woods fall victim to climate change*

As US President George W. Bush walks away from the Kyoto Protocol, a Woodland Trust report opens up new debate on climate change and nature conservation. ***Rory Francis*** *reports on a worrying picture of woods in the future.*



It is the long hot summer of 2101, exactly a hundred years from now. You are walking through a Coed Cadw (Woodland Trust) wood somewhere in Wales. At first glance it all seems very familiar: there are plenty of trees around. Look more closely, however, and the oak is nowhere to be seen, wiped out by a new strain of oak wilt disease imported from North America halfway through the 21st century. Bluebells, once so characteristic of ancient woodland in Wales, have become a folk memory, as warmer winters have allowed other plants such as garlic mustard and cow parsley to out-compete them.

Along dried-up stream beds, the alders are no longer regenerating because of persistent droughts. Large bare patches, visible on the valley sides, show where water shortages have killed other sensitive trees. Reversing a century-old policy of planting native broadleaved trees, Coed Cadw is resorting to hardy non-native conifers in an attempt to stabilise the soils and shade out the vigorous Japanese knotweed that has filled the available space.

The wood is strangely quiet for the time of year as well. Warblers and other migratory birds have been unable to make their way across the Sahara, now dramatically increased in size. Frogs and toads, notoriously sensitive to climate change, have disappeared from the woodland pools. Where once the rides and glades would have been full of multi-coloured

butterflies, now there is only a handful of meadow browns to be seen. Plants once synonymous with ancient woodland are nothing more than a distant memory.

Dramatic it may be, but this nightmare scenario, envisaged in a hard-hitting Woodland Trust report[1] on climate change published last spring, may not be so far from the truth. Even without the added stress of climate change, around half of Wales' ancient woods were lost in the 20th century, mainly due to conversion to conifer plantations, clearance for agriculture and development pressures. The elm – central to Wales' woods for millennia – virtually disappeared a decade ago as a result of Dutch elm disease. Where it survives at all, it is an understorey and hedgerow shrub, unable to reach maturity because of the virulence of the fungus. This is exactly the fate that could lie in wait for other, apparently robust species such as the oak.

It is now official: the world is heating up. Last January, the UN Intergovernmental Panel on Climate Change (IPCC) issued its strongest ever warnings about the reality of the situation:

'An increasing body of evidence gives a collective picture of a warming world and other changes in the climate system –

- Emissions of greenhouse gases and aerosols due to human activities continue to alter the atmosphere in ways that are expected to affect the climate
- There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities
- Human influences will continue to change atmospheric composition throughout the 21st century.'

More than 180 governments who adopted the Kyoto Protocol in July this year agree. Many are outraged by the cavalier attitude of George W. Bush, who, on entering the White House earlier in the year, announced that the United States would be turning its back on Kyoto and pulling out of the only international agreement to stop global warming – this despite the fact that the US on its own produces a quarter of the world's greenhouse gases.

But although climate change is here, and it is here to stay, we can do something about it. If we are to minimise its effects on our wildlife, however, we need to take urgent action now. First, that means doing what we can to reduce the source of the problem – by cutting emissions of greenhouse gases. Second it means asking ourselves some searching questions about what we are trying to achieve in terms of biodiversity and wildlife conservation, and how we can most realistically go about the task.

For years, nature conservation policy in the UK has been focussed on protecting specific designated sites: SSSIs and NNRs and more recently SPAs and SACs. However, these sites are often fragmented and isolated in hostile environments and the wildlife they support is seldom able to move between sites. In some cases, these designated sites are tiny – as little as a hectare. Even the proposed Meirionnydd oakwoods and bat sites Special Area of Conservation is actually made up of a number of discrete native woods, separated by land which is not primarily managed for nature conservation.

In a time of rapid climate change it is now widely accepted that the species compositions of our woods will change considerably as some species out compete others. We can no longer afford to measure nature conservation success at a site level, as the ability to assess a site using its designated features of interest is likely to be severely compromised as these features inevitably struggle for survival.

With climate change a reality, species distribution will need to change. With every 1°C rise in temperature it is estimated that a species range will need to move 100km north. Broadleaved woodland contains more rare and threatened species (232) than any other UK habitat[2]. However, with many of our most important woodland sites limited in size and separated from each other these species are locked in, unable to

move and colonise new sites, destined only for increased rarity and likely extinction as more mobile and competitive species move in from the south. We need, therefore, to establish much larger areas at a landscape scale enlarging, buffering and linking our most important sites and making the land in between them less hostile and more sensitive to wildlife. Nature must have room to move and adapt, this is the only way that our designated sites and our most precious wildlife will be able to survive in the 1.4 – 5.8°C rise in temperature that the IPCC predicts.

Is it not time to move beyond the concept of protecting special sites and start to work at a landscape scale? In the aftermath of Foot and Mouth Disease, a debate has already started about what sort of countryside we want, and what outputs government support for agriculture should be seeking to achieve. One element of this debate must be that if we want our children, and their children, to enjoy the full richness of nature and wildlife, then we must recognise the importance of creating much larger areas where wildlife can thrive, including native woodland, other semi-natural habitats and more sustainable agriculture. The problems of the first half of 2001 show us just how important the quality of the environment is to the economy of rural Wales. A more sympathetically managed landscape supporting a rich diversity of wildlife for people to enjoy would be important as an economic asset as well as an environmental one.

We do not have the luxury of being able to set aside substantial areas of natural forest, because they no longer exist. Our best hope is to protect, restore and extend ancient woods to create large, self-sustaining wooded landscapes, buffered and linked by complementary habitats such as scrub, heath, grassland and more sustainable forms of agriculture. In Wales, a particular priority must be to restore the 59,000 hectares of ancient woodland which were felled and replanted last century, mostly with conifers – an area equivalent to the whole of the Pembrokeshire Coast National Park! We need to take a holistic approach and manage woods within the context of other surrounding land uses. In order to be most effective, this action should be targeted at areas where the largest proportion of ancient woodland survives, for example, the Wye Valley, the Vale of Neath, Eastern Montgomeryshire and the central Glamorgan Valleys – because these are the places likely to see the greatest benefit.

It's always hard facing up to the truth. It's always much easier to shuffle things under the carpet – the response of President Bush is testament to that. But we cannot keep hiding our heads in the sand – the climate is changing too fast now. It is people who are the root cause; it is people who must find ways of making amends. It will undoubtedly mean big decisions for governments and for all of us as individuals, and a change in the way we think about nature conservation. But the longer we leave it the bigger the problems will be and the less likely it is that we'll be able to turn the supertanker around and help nature cope. That's what we have to try to do.

Rory Francis is public affairs and publicity officer for Coed Cadw (the Woodland Trust).

References

1 *A Midsummer Night's Nightmare: The future of UK woodland in the face of climate change*. Woodland Trust March 2001. (Available free online at www.woodland-trust.org.uk/policy/index.htm

2 *Biodiversity: The UK Steering Group Report 1995*

Action stations

Everyone can do something to help Wales' woods in the face of climate change. Read the list below and decide what you can do to make a difference.

The National Assembly

- Set up a Cabinet committee on climate change
- Increase funding for research
- Push for further reform of the Common Agricultural Policy to reduce intensity of land use
- Target grants to areas with a high proportion of ancient woodland
- Maintain and increase incentives for new woodland creation and restoration in priority areas
- Strengthen planning legislation to protect ancient woodland
- Embrace new landscape-scale approaches to conservation planning, especially focusing on how woodland and other habitats can help one another

Landowners

- Reduce the intensity of land use and extend native woodland

Non-governmental organisations

- Campaign for adaptive strategies and contribute to their development
- Work in partnership with one another at a landscape level

Individuals

- Start making changes to your everyday life: buy a smaller car, for example, and use it only when absolutely necessary
- Take part in Coed Cadw's phenology project to record changes in the arrival of the seasons associated with climate change. See Coed Cadw's website on this at www.woodland-trust.org.uk/phenology/

Hunllef mewn coedwig

Adroddiad Coed Cadw yn codi cwestiynau treiddgar ynglŷn â newid yr hinsawdd, a'n hymateb iddo. Cyhoeddwyd adroddiad gan Coed Cadw fis Mawrth eleni sy'n bwrw golwg ar effaith newid yr hinsawdd ar goedlannau brodorol Cymru. Mae'n dechrau trwy ddychmygu sut olwg allai fod ar goedlan yng Nghymru ymhen can mlynedd, dechrau'r ail ganrif ar hugain! Mae'r dderwen wedi hen ddiflannu yn sgîl dyfodiad pla newydd o America, ac mae clychau'r gog, planhigyn sydd mor nodweddiadol o goetir hynafol Cymru, wedi mynd i ebargofiant, gan bod hafau cynhesach wedi ffafrio planhigion eraill megis gorthyfail a garlleg y berth. Hyd yn hyn, mae amgylcheddwyr wedi tueddi, yn briodol iawn, i ganolbwyntio ar waith i atal a lleihau newid yr hinsawdd. Ond erbyn hyn mae rhaid inni dderbyn fod yr hinsawdd yn newid yn barod, bod hyn yn mynd barhau, ac felly fod yn rhaid inni ofyn cwestiynau treiddgar a chwbl sylfaenol am yr hyn rydym ni'n ceisio ei gyflawni ym myd cadwraeth natur.

Hyd yn hyn mae polisi cadwraeth yng Nghymru wedi canolbwyntio ar warchod darnau bach o dir sydd â statws cadwraeth arbennig, boed yn Safleoedd o Ddiddordeb Gwyddonol Arbennig, yn Warchodfeydd Natur Cenedlaethol, yn Ardaloedd o Amddiffyniad Arbennig neu'n Ardaloedd Cadwraeth Arbennig. Mae rhai o'r ardaloedd hyn yn fach dros ben, ac mae'n amlwg fod pwysigrwydd ardal ar gyfer byd natur yn dibynnu'n helaeth ar ei faint daearyddol. Mae trychineb clwy'r traed a'r genau yn achosi dadl boeth yn barod ynglŷn â sut gefn gwlad rydym eisiau ei weld yn y tymor hir, a pha amcanion y dylai'r llywodraeth geisio eu cyflawni wrth gynnig cefnogaeth i'r diwydiant amaethyddol.

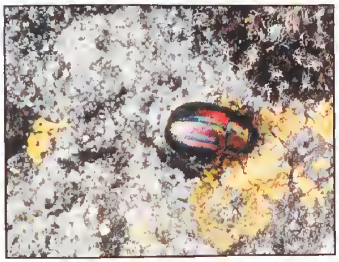
O gofio bygythiadau newid yr hinsawdd i fyd natur, onid oes yna ddadl gref am greu ardaloedd helaeth, yn goetir brodorol, yn gynefinoedd lled-naturiol ac yn dir sy'n cael ei ffermio mewn dull traddodiadol, heb fod yn ddwys, lle gall pobl a byd natur ffynnu ochr yn ochr? Mae profiad y Gymru Wledig yn ystod hanner cyntaf 2001 wedi profi'n glir pa mor bwysig yw ansawdd yr amgylchedd naturiol i economi cefn gwlad Cymru. Mae'n hawdd anwybyddu problemau enfawr byd-eang, ond os gwnawn ni hynny, fe fyddan nhw'n tyfu'n fwy. Os ydym ni o ddifrif ynglŷn â gwarchod cyfoeth byd natur ar gyfer ein plant, a phlant ein plant, yn etifeddiaeth dragwyddol, rhaid inni fynd i'r afael ag achosion newid yr hinsawdd. Ond rhaid inni hefyd ailfeddwl ein holl bolisïau ynglŷn â chadwraeth natur.

Climate change on Snowdon – *what does it mean for wildlife?*

In response to the threats of climate change and pollution, an intensive long-term monitoring project has begun on Snowdon. ***Clive Walmsley*** *explains the purpose of the monitoring and describes some of the apparent changes in the environment, and the wildlife that survives despite the harsh conditions on the mountain.*

Alex Turner monitoring change.

Male Wheatear.



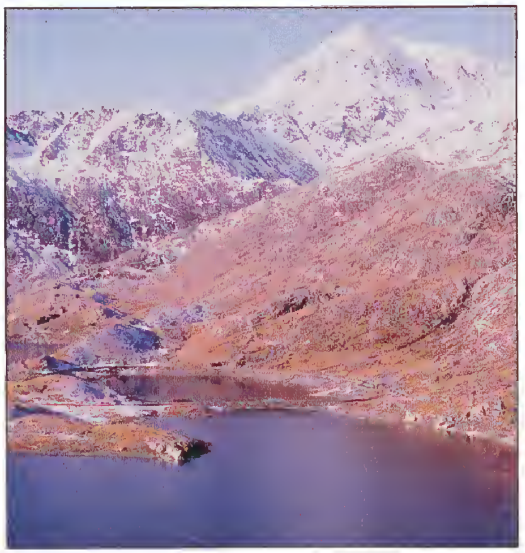
Snowdon Rainbow Beetle.

The decision of George W. Bush to pull out of the Kyoto agreement has encouraged further worldwide debate over the likely impact of climate change and our means of counteracting it. There are two distinct means of tackling the problem. First, and most importantly, to control the emissions of pollutants that cause global warming, and secondly, to manage the effects of climate change. Models of global climate for the 21st century predict that even if large reductions in greenhouse gases are achieved, there will be a long delay before these measures yield significant reductions in climatic changes. We are going to have to manage climate change whether or not we reduce emissions – both approaches are essential to dealing with the issue.

A network to detect environmental change

In 1992, in response to the need for long-term integrated environmental monitoring at established sites, the Environmental Change Network (ECN) was born. An important strength of ECN is that each site monitors both the causes and impact of environmental change[1]. Currently there are 12 sites throughout the UK, monitoring environmental change using identical methods. In 1995 an ECN site was established on Yr Wyddfa/Snowdon: this site, unique within Wales, was chosen for its diversity of vegetation communities, including rare arctic alpine species that are likely to be threatened by climate change.

Come rain, snow, gales, or occasionally sunshine, we visit the site every Wednesday throughout the year, and more often in summer, to carry out extensive monitoring of climate, hydrology, pollution and wildlife[2]. Our objective is not only to detect climate change and pollution but also their impacts on the hydrology of the site and its ecology. The nature of climate change means that it may take many years to identify its effects upon the mountain environment but by measuring all the most likely causes, we should have a much easier job explaining future changes in wildlife populations.



Snowdon, site of the monitoring station.

Trends in the climate

One of the reasons for selecting Snowdon as a site was the availability of information from research done during the 1950s to 1970s. Rainfall records date back at least to 1945 and temperature and humidity have been measured since the 1960s. Natural climatic variation means that records gathered over the last few years show no clear trends, but we have been able to compare these measurements with the recordings taken between 1966 and 1977, at the same meteorological exclosure, using the same methods. This analysis has revealed that over the past 30 years there has been an increase of 1.2°C in the average minimum air temperature. In contrast, there has been no significant increase in mean maximum air temperature (+0.1°C).

We would expect these higher minimum temperatures to be reflected in reduced snow cover on Snowdon during winter. Daily snow records gathered throughout the winter since 1994 show that the average altitude of the snow line has risen from 569m in 1994-95 to 772m in 1999-00, and the length of the snow season has decreased over the last 7 years. In 1995 and 1996 the last snow occurred in mid-May while in 1999 and 2000 the season was over by mid-April.

Snowdon has always had very high rainfall, yet there has been a striking increase over the last 5 years. This was most notable during autumn 2000 when weekly rainfall rarely dipped below 150mm (5.9in) and peaked at 250mm (9.8in) in a single week. The combination of an increase in minimum temperature, a reduced temperature range and increasing rainfall suggests a move towards a warmer and wetter, more oceanic, climate. Yet there are similarities between recent rainfall records and those dating back to 1945. This emphasises the importance of long-term monitoring over decades rather than the few years of most research projects.

Assessing impacts on wildlife

The often harsh conditions on the mountainside may not seem like a suitable environment for butterflies but there are resident populations of small heath and green-veined white and on warm summer days migrants such as red admiral and green hairstreak can be seen. Butterfly numbers declined significantly during 1998 and 1999, probably as a result of the wet summers of 1997 and 1998, and the beginning of their population recovery followed the drier summer of 1999.

In late spring the marshy flushes are dotted with small white balls of spittle coagulated around blades of grass – these are formed by the excretions of the spittle bug larvae that develop into adult bugs in August.

The larvae density is easily monitored by counting the conspicuous spittles while the adults are sampled not to estimate their population but the variation in their colour and patterning. Some twelve different patterns of colouration on their bodies have been recognised and it is likely that the proportions of these forms will be good indicators of environmental change as they are thought to be environmentally determined.

Wren.

Our monitoring of insects also includes moths, spiders, ground beetles and the harvestman *Mitopus morio*, which could give an early indication of environmental change. Some 26 species of ground beetle have been recorded on the site over the last two years with very large populations of the jet black, iridescent *Pterostichus madidus*, occurring from spring until early December. Among the twelve ECN sites, Snowdon is unique in maintaining active beetle populations until early winter while at all of the sites in southern Britain beetles become inactive by early autumn. The reason for this is not yet clear, but it may be related to habitat.

The reproduction of frogs in small pools on the slopes of Snowdon is being monitored annually to identify any trends in spawning, egg hatching or froglet emergence. So far on Snowdon the earliest date of frog spawning has become earlier, from late March in 1996 to late February in 2000. The emergence of the first froglets has also become earlier. In 1996 and 1997 the first froglets emerged from the pools in mid-August. In 2001, tiny froglets were seen hopping amongst the clumps of *Sphagnum* moss surrounding the pools in early July.

Few visitors to Snowdon are aware of the insectivorous predators that fly at dusk around Llyn Llydaw, and occasionally at high altitude near Crib Goch. Over the last 5 years there has been a steady increase in bat activity. Although largely pipestrelles, some Daubenton's bats occur near the lakes. Birds are the other key group monitored. Meadow pipit is the predominant species, with a stable population: wheatear, herring gull, common sandpiper and wren are regularly recorded. The only clear trend has been the annual increase in the number of wheatear over the last 5 years.

There are plenty of opportunities for anyone to monitor their local wildlife events, including frogs, birds, butterflies and flowers, through the UK Phenological Network[3] and add to the growing evidence of climate change.

Such phenological monitoring (recording the changes in the timing of natural events, such as the start of leaf burst of plants, the emergence of butterflies, or arrival of migrant birds) has graphically illustrated the effects of warmer spring temperatures in southern England and Europe. There are records of bird migrations from observatories on the islands of Bardsey, Skokholm and Skomer and the first appearance of butterflies is recorded across Wales. Yet overall, there are relatively few long-term records of such events in Wales.

Taking readings at the station.

Whether the trends described above are important is as yet uncertain. The value of the monitoring on Snowdon will grow, as figures collected over many years should enable patterns to be identified and their significance confirmed. It will also be possible to compare Yr Wyddfa with other ECN sites in England, Scotland and Northern Ireland. Ultimately, the data should enable us to test and validate climate change models, distinguish regional or local impacts and recognise the relationship between the ecosystem and environmental change. Most importantly, it should alert us to what climate change will mean for wildlife, and assist us in the management of changes in our environment.

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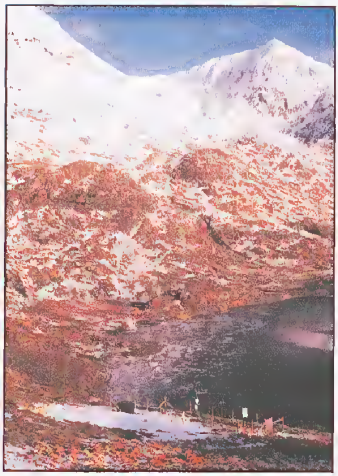
Acknowledgements

My thanks go to **Alex Turner** and **Matt Murphy** for acquiring and analysing the ECN data. I am grateful to **Jeremy Williams** of the School of Agriculture and Forestry Science at University of Wales Bangor for the snow records and to the **Baron Hill Estate** for permission to monitor at the site.



The monitoring station on Snowdon.

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1 Sykes, J.M. & Lane, A.M.J. 1996. *The United Kingdom Environmental Change Network: protocols for standard measurements at terrestrial sites*. The Stationery Office, London. (see also the award-winning ECN web site at www.ecn.ac.uk).

2 Turner, A & Walmsley, C.A. 1999. *CCW Species & Monitoring Report* 99/2/2.

3 For further information see: www.phenology.org.uk

Amgylchedd yr Wyddfa'n newid

Mae safle i fesur newidiadau yn yr amgylchedd ar yr Wyddfa yn dangos rhai amrywiadau mewn hinsawdd ac ymddygiad bywyd gwyllt. Mae'r safle'n un o 12 sydd gan y Rhwydwaith Newid mewn Amgylchedd yng ngwledydd Prydain. Ers 1995, mae, fel y gweddill, yn mesur yr achosion a'r effeithiau. Cafodd yr Wyddfa ei dewis oherwydd amrywiaeth ei phlanhigion ac am fod gwybodaeth ar gael o'r gorffennol ynglŷn â glaw, tymheredd a lleithder.

Dyma rai o'r newidiadau:

- Mae cyfartaledd y tymheredd isaf wedi cynyddu 1.2 gradd C yn ystod y 30 mlynedd diwethaf.
- Mae cyfartaledd uchder y llinell eira wedi codi 203m mewn pum mlynedd.
- Fe fu cynnydd trawiadol mewn lefelau glaw yn ystod y pum mlynedd diwethaf.

Dyma rai enghreifftiau o'r ffyrdd o fesur yr effeithiau:

- Gloÿnnod byw – sy'n prinhau ar ôl hafau gwlyb.
- Trychfilod – gan gynnwys pryfed poer y gog, a allai ddangos newidiadau trwy'r patrymau ar eu cyrff.
- Creaduriaid – mae tymor grifft brogaod yn gynt ac fe fu cynnydd mewn ystlumod yn ardal Llyn Llydaw. Dydy hi ddim yn glir a yw'r newidiadau'n barhaol – mae mesur tros dymor hir yn hanfodol, gan gymharu canlyniadau'r Wyddfa gyda safleoedd eraill y Rhwydwaith.

A spiritual place:
Bardsey and other nature reserves

***Peter Hope Jones** has spent a lifetime observing and photographing nature. He is especially associated with Bardsey, and has been the driving force behind the recording of nature there. Amongst his written and photographic work are two books on Bardsey, one with his friend R.S. Thomas. Here he explores Bardsey's spiritual dimension, and suggests that this aspect of other nature reserves should be given more consideration.*

The mists rise over Bardsey.

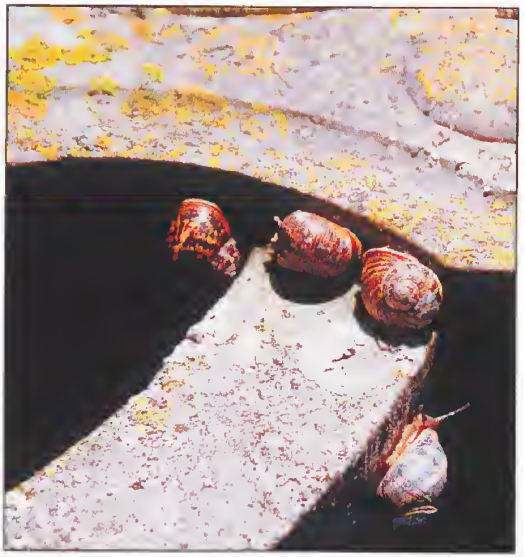
By any standards, Bardsey is a busy site. This island National Nature Reserve, off the coast of the Llŷn, in Gwynedd, is busy not just with its bustling seabirds, its luxuriant kelp beds, its flowery damp meadows with buzzing invertebrates, and its flux of migrant birds in spring and autumn, but also with people: farmers, fisherfolk, students, researchers, property-repairers, and visitors. This last grouping includes people who come to Bardsey almost for relief from many aspects of what passes, in present-day Britain, for civilization, with its potential for frenetic pressures of many kinds.

Bardsey is unusual within Wales in being one of the few National Nature Reserves set up under Section 35 of the Wildlife and Countryside Act (1981). This means that it was accepted by the Nature Conservancy Council, and now by the Countryside Council for Wales, as a site run by a private body and subject to a Management Plan agreed by NCC/CCW. Bardsey is the epitome of a multi-use nature reserve where the interests and values of wildlife conservation, although ostensibly paramount, must be integrated with those of low-input farming, religion, architecture, archaeology and history, education, a small holiday-cottage industry, and the provision of peace and quiet for human visitors.

The island was visited on many occasions by the priest/poet R.S. Thomas and by the naturalist/writer Bill Condry. Both drew from the place much more than a superficial enjoyment of its wildlife, and this article tries (inevitably from a very subjective perspective) to suggest one aspect which might have appealed to them as well as to numerous other visitors.

Bumblebee on wild thyme.

I feel deeply about Bardsey and have watched and chronicled its changes over four decades. This somewhat *ad hoc* presentation of ideas and feelings, mostly unresearched and unreferenced, is a personal one. It does not necessarily reflect or represent the views of those organisations with a legal and (in my view) moral commitment to the management of the island. I feel that the topic discussed here has been greatly undervalued and under-discussed in recent times, and that deeper consideration of these issues would be of considerable value towards the future management of Bardsey and of other nature reserves.



Snails on a Celtic cross.

Bardsey's spiritual history

The human history of Bardsey has been recorded mainly because of the spiritual dimension which, given the island's geographical location in northwestern Europe, is the Christian religion. The main subspecies involved in this evolutionary process were establishment by the early Christian church (which from the retrospect of the 20th century was given the name 'Celtic Church'); an Augustinian (Roman Church) takeover in the 12th century; a belated colonisation by the Calvinistic Methodists; and in the late 20th century the start of a so-far peaceful ecumenism where all Christian varieties have been encouraged. Bardsey boatmen seemed to Pennant 'tinctured with the piety of the place' (*Tours in Wales* vol.2, p.380, 1810 edn.). This piety was probably at its highest in that period of the later Middle Ages when pilgrimages to Bardsey were apparently common – presumably to the religious advantage of pilgrims travelling and of souls being buried, and to the financial advantage of the monks who provided the requisite facilities.

On this island, humans created a spiritual ambience which was sustained over at least fifteen centuries of occupation by the religious, by farmers and fishermen, periodically by pirates, by lighthouse-keepers, and latterly by poets, artists and naturalists; all the while being visited by religious pilgrims and later on by a whole range of visitors curious to know about the island, to see its sights, and sometimes to partake of its spirituality.

The spiritual value of Bardsey

I am using the word spiritual to mean any non-material influence affecting people; it can run the gamut from the pensive 'wow'-factor of seeing a sunset or a rare bird through to the esoteric planes visited by mystics in their rarified contemplations. Perhaps most specifically in the present context, it relates to feelings which incline the mind towards attitudes such as deep appreciation, awe, aesthetic satisfaction, humility and gratitude when the individual faces, or is surrounded by, a nature reserve.

At Bardsey the opportunities for such interactions are legion. They include the very long-term stable features such as the solid geology, the shorter-term stable such as stones and buildings; the fluid such as sea, clouds, freshwater and rain; the living, encompassed in the world of nature; and a disparate array of more intangible features such as weather, or history and tradition as transmitted by language, music and literature. Combinations of these factors can lead to contemplation in, for example, theories of bird migration, links between chaos theory and weather patterns, or nostalgia for a supposed golden past of community, religion or Welshness. These and many

other features create a spiritual ambience which can affect, or be sampled by, human visitors, and which can combine to create that which I have called the spiritual value of Bardsey.

Corporate expressions of spiritual feeling are often made at Bardsey through the formalised Christian media in the chapel, others are made occasionally by skyclad pagans in carrying out the rituals of their belief systems. Most, however, are private, where individuals think and feel for themselves the pleasure they obtain from watching clouds or looking at a small patch of wild thyme and its attendant bumblebee. The spiritual dimension extends well beyond pleasure at appreciation of a 'nice' scene.

Bardsey has for centuries been considered a holy place, but for many people this word 'holy' comes loaded with the baggage of two millennia of Christian dogma. In this secular age and country, many people need to find their own spirituality, perhaps some loose system of ethics and beliefs free from overtly religious overtones. Where better to develop and explore one's spiritual feelings, and evolve a gentle attitude to life, than in the peace and quiet which can so often be found, even in this 'busy' nature reserve?

The message

The concept of wilderness, certainly in any global sense, has effectively disappeared in Wales, but wildness can be captured in an area as small as a bramble bush, a patch of thrift, or even a solitary chough on a clifftop. Nature reserves can provide that element of wildness which can invoke a sense of the spiritual in those making the effort to appreciate such sites. Any spiritual response may include superstition or religion, but it need not do so, and there are numerous examples from the far east where wildness and nature have elicited marvellous responses completely devoid of theism or the supernatural.

To my mind, spirituality on nature reserves is a product of ethics and human consciousness, not of theistic religion.

One of several criteria already used in the identification of potential nature reserves is naturalness, a delicate attribute which contributes strongly to a spiritual response, and which can be so easily destroyed in management operations such as the provision of footpaths, notices and fences. The maintenance of nature reserves, at least those in Britain, is often a matter of wildlife gardening, especially on multi-purpose sites like Bardsey.

Bardsey at sunset.

The custodians and managers of such precious sites should try to manage them in ways which increase their naturalness. The value of their spiritual dimension will surely increase with time in this country already pressured by development and material progress. Spirituality on nature reserves is an unusual species, well worthy of conservation: the concept may be rather strange and difficult to define; the product is fragile and difficult to protect; but the benefits to humans and to individuals are enormous.

Some photographs of Bardsey, and of other nature reserves, are as much about the feelings of the photographer when taking the shot as they are about the image depicted in the photograph. The spiritual aspect of such reserves exists not as a tangible feature of the landscape or its wildlife, but in the minds of those people who visit the sites or see them represented as images on film or photograph. Thus the provision of such reserves can add immeasurably to human well-being by making available sources of beauty and naturalness which are fast disappearing elsewhere in Wales.

Many would contend that the spiritual aspect of life is of great value to humanity – whether it is learnt or innate, religious or secular, is immaterial in this context. The continued protection and sympathetic management of nature reserves – with their naturalness and spiritual potential – adds to an appreciation of these sites. All nature reserves are Sites of Special Spiritual Importance.

Peter Hope Jones, now retired, was formerly monitoring ecologist at CCW and is a well-known ornithologist and photographer.

Y wedd ysbrydol ar Enlli, ac ar warchodfeydd natur eraill

Mae Enlli yn Warchodfa Natur Genedlaethol sydd yn bwysig i fywyd gwyllt, ond sydd hefyd yn gofalu am ddiddordebau mewn ffermio, crefydd, a gwyliau heddychlon. Mae wedi bod am gyfnod hir yn ynys 'sanctaidd', er bod diddordeb ysbrydol diweddar wedi dod, nid yn unig o'r grefydd Gristnogol, ond o ystod eang o ffynhonnellau digrefydd.

Mae Enlli yn darparu llawer o gyfleoedd ar gyfer cydweithredu ysbrydol, sydd yn aml yn arwain at fyfyrdod neu, o leiaf, at werthoedd sydd ymhell y tu hwnt i werthfawrogiad. Fe honnir fod yr holl warchodfeydd natur yn Safleoedd o Bwysigrwydd Ysbrydol Arbennig, ac fe annogir y gofalwyr i roi ystyriaeth i'w naturioldeb a'u bywyd gwyllt er gofalu am y diddordeb yma a allasai fod yn fregus ac yn anodd i'w warchod, ond sydd o fudd mawr i ymwelwyr dynol.

Conserving lawn fungi – *home to a wealth of waxcaps*

Surveys in Wales over the last three years have revealed internationally important populations of four rare species of fungi, which are identified in the national Biodiversity Action Plan as requiring action to conserve them. These grow in agriculturally unimproved pastures and upland rough grazings, but important populations have also been found on lawns, in churchyards and gardens. ***Ray Woods*** *explains the newly found importance of this habitat.*

Date-coloured waxcap Hygrocybe spadicea.

Fungi can seem bewilderingly diverse. Over 12,000 different sorts may occur Britain. Many are confined to a particular type of habitat. Most people associate fungi with woodlands, yet some fungi prefer life in grassland.

Before humans had a major impact on our country, natural grasslands may have been more widespread than has customarily been supposed. Parts of our widely afforested landscape were probably permanently, or for long periods, kept free of trees and shrubs by wild grazing animals. A number of fungi adapted or evolved over time to life in these grasslands. They now maintain a tenuous hold in those few remnants of little-modified grassland where, by whatever means, the turf continues to be kept short and our wild species of grass, sedge, herb and moss form a large part of the sward.

A small red-coloured waxcap H. marchii.

If your regularly mown lawn is over 50 years old and has never been reseeded and you have resisted using fertilizers or fungicides you may be one of the fortunate few. You could wake on an autumn morning to the sight of a lawn bejewelled with the glistening, brightly coloured fruit bodies of a myriad waxcap *Hygrocybe* and fairy club fungi. The finest lawns may have over 20 different sorts of waxcap species, many in stunning carmine, chrome yellow, green or orange colours. Fairy clubs *Clavaria* and *Clavulinopsis spp.* may appear in branched, coral-like growths of orange, purple, buff and white. Duller, but just as strange are the black

and dark brown liquorice-like growths of the earth tongues *Geoglossum*, *Miroglossum* and *Trichoglossum*. How so many species come to exist side by side in such an apparently uniform habitat is one of the larger unsolved mysteries of natural history.

The crimson waxcap H. splendidissima.

Indeed practically nothing is known of the way many grassland fungi obtain a living. Some are undoubtedly saprophytes, feeding on decaying organic matter. Their fruit bodies can form in well-known 'fairy' rings. Good examples are the fairy-ring champignon *marasmius oreades*. A spore colonizing the lawn at a single point grows out in all directions to occupy an ever larger circle of ground. Each year fruiting may occur close to the most actively growing edge, the fruit bodies then appearing as a ring. Measuring the size of the fairy ring from one year to another can provide an estimate of the speed of growth.

Yet other species never seem to occur in rings. The pink waxcap *Hygrocybe calyptriformis*, a priority Biodiversity Action Plan species, is a good example. Its distinctive conical pink caps appear apparently at random. Studies of over 20 sites in mid Wales show that it is almost invariably associated with the bushy, squirrel-tail-like shoots of the moss *Rhytidiadelphus squarrosus*, common bent *Agrostis capillaris* and sheep's fescue *Festuca rubra* grasses. If a special relationship exists between the fungus and these plants it may be a finely balanced one, since the addition of artificial fertilizers appears to prevent most grassland fungi from fruiting, yet the most commonly associated higher plants and mosses may still be present.

Other potentially damaging gardening activities need consideration. Most grassland fungi fail to fruit in deep shade so any new tree planting into important lawns should be avoided. The impact of moss killers has yet to be evaluated. None appears ever to have been used on any of the lawns supporting a rich fungus flora, though the possibility remains that the apparent association between such rich floras and lawns rich in moss may be coincidental. Light applications of lime, at least to the more acidic sites, may stimulate fungus fruiting but more experimental work is required.

Pink waxcaps are now known from 56 churchyards in Wales and 14 garden lawns. The greatest threat to these populations may be from well-meaning conservationists. Heavily mown lawns are seen as a depauperate habitat, better turned into 'hay meadows'. Allowing the grass to grow tall between cuts unfortunately seems to prevent many grassland fungi from fruiting or may result in their total loss. Recent surveys of hay meadows rich in higher plants in mid Wales over three autumns has confirmed that few grassland fungi fruit in these fields, even though the grass may have been cut in July and the aftermath heavily grazed.

Churchyards can be important for waxcaps.

Often a few fruit bodies occur around the edge, but only where sheep from neighbouring fields can graze through the fence. The lesson must be to do the survey before taking a decision to vary the management. I have no doubt that through ignorance I have at least temporarily destroyed some important waxcap grasslands by encouraging the cessation of grazing or mowing in the early summer to favour higher plants.

As this group of fungi is becoming better known by surveys across Western Europe it is becoming clear that Wales has some of the richest sites. Lawns, particularly those around our churches, chapels, country houses and older town houses must now be viewed amongst the more precious of our wildlife habitats

Ray Woods is Area Officer for East Wales with the Countryside Council for Wales and takes the lead on all matters mycological throughout Wales for CCW.
To promote the conservation of grassland fungi and help achieve the targets set out in the National Biodiversity Action Plan CCW has produced an information leaflet on grassland fungi and individual notes on the BAP grassland fungi. They can be found on the CCW Website or copies obtained free from Publications; 01248 385500. The author would also be pleased to receive details of Welsh lawns rich in fungi.

Orange peel fungus, aleuria aurantia.

Conical waxcap H. conica.

Honey-scented waxcap H. reidii.

Helpu'r ffwng i ffynnu

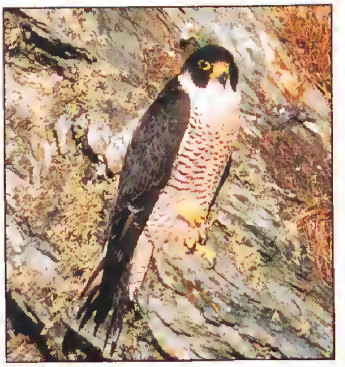
Mae arolygon wedi dangos fod gan Gymru safleoedd o bwysigrwydd rhyngwladol i bedwar math gwahanol o ffwng sy'n ffynnu mewn glaswellt. Mae rhai i'w cael mewn lawntiau a mynwentydd – mae'r cynefinoedd gorau tros 50 oed, heb eu hail-hadu erioed, heb weld gwrtaith a ffwngladdwyr ac yn cael eu torri'n grop yn gyson. Gall rhai lawntiau a mynwentydd gynnwys cymaint ag 20 gwahanol fath o gapiau cwyr mewn lliwiau llachar. Mae pastynau'r waun fel cwrel tra bod tafodau'r ddaear yn ddu a brown tywyll, fel licoris. Dydyn ni'n gwybod fawr ddim am sut mae ffwng yn ffynnu – dim ond rhai sy'n ffurfio cylchoedd, er enghraifft – ac esbonio sut y gall cymaint o rywogaethau gwahanol gydfyw mewn cynefin unffurf yw un o ddirgelion mawr byd natur.

Mae angen ystyried ffwng wrth reoli lawntiau a thir glaswellt – mae gadael i laswellt dyfu'n hir yn ddrwg. Felly, rhaid gwneud arolwg cyn penderfynu newid patrwm rheoli. Wrth i ni ddod i wybod mwy am y math yma o ffwng, mae'n dod yn amlwg hefyd mai yng Nghymru y mae rhai o'r safleoedd gorau – rhaid ystyried bellach fod lawntiau ymhlith y mwyaf gwerthfawr o'n cynefinoedd bywyd gwyllt.

Adar ysglyfaethus yng Nghymru
yn y flwyddyn 2000

***Iolo Williams**, dyn adar adnabyddus, yn sôn am ffawd ac anffawd adar ysglfaethus y dydd yng Nghymru.*

Crochren y Cipar.



Hebog tramor.

Buwch goch gota.

Bu cysylltiad agos rhwng dyn ac adar ysglyfaethus ers blynyddoedd maith. Fe'u defnyddiwyd ganrifoedd lawer yn ôl ar gyfer heboga. O'r herwydd fe'u diogelwyd gan ddeddfau brenhinoedd fel, er enghraifft, Hywel Dda yma yng Nghymru a Harri'r Wythfed ym Mhrydain.

O'r ail ganrif ar bymtheg ymlaen fodd bynnag, newidiodd ein hagwedd tuag at yr adar godidog yma gan eu bod yn lladd adar eraill megis grugieir, hwyaid a ffesantod ac am dair canrif fe'u herlidwyd yn ddi-drugaredd. Yn wir, hyd at ganol y ganrif ddiwethaf, roedd ciperiaid ledled y wlad yn parhau i saethu a gwenwyno adar fel y bwncath a'r gwalch glas yn hollol gyfreithlon. Erbyn hyn, mae'r gyfraith ac agwedd dyn wedi newid.

Casglwyd y wybodaeth yma am sefyllfa poblogaethau adar ysglyfaethus Cymru yn y flwyddyn 2000 gan arbenigwyr o'r Gymdeithas Gwarchod Adar (RSPB), Cyngor Cefn Gwlad Cymru (CCGC) a Grŵp Astudio Adar Ysglyfaethus Cymru (GAAYC). Mae natur y wybodaeth yn amrywio o un rhywogaeth i'r llall. Gwnaethpwyd arolygon manwl ar rai fel yr hebog tramor a'r cudyll bach, ond dim ond amcangyfrif sydd gennym o niferoedd adar eraill fel y bwncath a'r cudyll coch.

Boda'r mêl

Nythodd y pâr cyntaf yng Nghymru ar ddechrau'r 1990au ac ers hynny, mae grŵp bach o adarwyr wedi monitro'r boblogaeth yn fanwl. Gan fod yr adar mor brin, mae'r safleoedd nythu yn cael eu cadw'n gyfrinachol. Erbyn heddiw, amcangyfrir bod o leiaf chwech o barau'n nythu yma ond mae'n bosib bod y nifer yn llawer uwch. Dangosodd gwaith ymchwil bod yr adar yn ffynnu'n rhyfeddol er gwaetha'r tywydd ac yn bwydo'n bennaf ar wahanol rywogaethau o wenyn meirch yn ogystal â chacynnod, llyffantod ac adar bach. Ar hyn o bryd, hwn yw aderyn ysglyfaethus prinnaf Cymru.

Barcud

Mae poblogaeth y barcud yn cael ei arolygu'n flynyddol gan Ymddiriedolaeth Barcutiaid Cymru ond yn y flwyddyn 2000, trefnwyd arolwg Prydeinig. Dangosodd arbrofion DNA mai dim ond un iâr oedd yn nythu ym Mhrydain yn y 1930au a bod iâr o'r Almaen wedi ymuno â'r boblogaeth fechan yn ne orllewin Cymru tua 1970. Dim ond er yr 1980au y mae'r niferoedd wedi cynyddu'n gyflym ac yn ôl arolwg 2000, cafwyd 259 o barau yng Nghymru, sef y nifer fwyaf a nythodd ers o leiaf ganrif a hanner. Yn ogystal â hyn, mae barcutiaid wedi eu hail-gyflwyno i Loegr a'r Alban o boblogaethau yng Nghymru, Sbaen a Sweden. Mae dyfodol yr aderyn erbyn heddiw yn un gobeithiol iawn. Serch hynny, mae'n parhau i gael ei fygwth gan gasglwyr wyau a gwenwynir rhyw hanner dwsin o adar yn y canolbarth bob blwyddyn.

Boda'r gwerni

Er na fu'r aderyn yma yn nythu yng Nghymru ers dros chwarter canrif, mae ei nifer wedi cynyddu a lledaenu dros Brydain ac mae'n bur debyg y bydd yn nythu yma eto yn y dyfodol agos. Yn y gwanwyn, bydd unigolion i'w gweld ar rai o gorsydd Cymru, yn enwedig ym Môn a Cheredigion. Mae pâr wedi sefydlu tiriogaeth o leiaf ddwy waith mewn un safle ar Ynys Môn yn ystod y deng mlynedd diwethaf.

Boda tinwyn

Cafodd yr aderyn ysglyfaethus godidog yma ei hela i farwolaeth yng Nghymru tua 1912 ac er iddo barhau i nythu yma ac acw o dro i dro, nid ail-sefydlwyd y boblogaeth tan 1958. Yn y flwyddyn honno, nythodd pâr ar y Berwyn a thros yr ugain mlynedd canlynol, cynyddodd y nifer i tua 30 o barau ar fynyddoedd grugog y gogledd a'r canolbarth. Rhwng 1988 ac 1994, arolygwyd y boblogaeth yn fanwl gan yr RSPB a CCGC a thros y cyfnod yma, gwelwyd bod rhwng 21 a 29 o barau yn dal tiriogaeth. Dangosodd arolwg manwl arall ym 1998 bod y niferoedd wedi aros yn gyson o gwmpas 28 o barau. Hyd at y 1990au, roedd erledigaeth yn broblem fawr ar y Berwyn gydag adar a nythod yn cael eu dinistrio. Erbyn heddiw, mae'r sefyllfa wedi gwella a'r gobaith yw y bydd yr aderyn yn lledaenu i rai o ucheldiroedd grugog siroedd y de.

Gwalch Marthin

Bu'r aderyn ysglyfaethus yma'n absennol o Gymru am o leiaf dair canrif nes iddo ddechrau nythu unwaith eto yn y 1970au cynnar. Heb os nac onibai, adar wedi dianc oddi wrth hebogwyr oedd yr adar cynnar yma a thros y degawd canlynol, rhyddhawyd adar i'r gwyllt gan hebogwyr eraill. Manteisiodd y gwalch Marthin ar y ffaith bod chwarter o ucheldir Cymru o dan goed bythwyrdd estron, sef ei gynefin naturiol ar y cyfandir, a chynyddodd y niferoedd yn gyflym dros ben. Amhosibl yw gwneud arolwg manwl o'r rhywogaeth swil yma ond mae Grŵp Astudio Adar Ysglyfaethus Cymru wedi dangos bod o leiaf 300 o barau yn nythu yng Nghymru, sef tua hanner poblogaeth Prydain. Mae llawer o astudiaethau wedi dangos bod y gwalch Marthin yn fodlon bwyta amrywiaeth fawr o brae, ond yn arbennig ysguthanod, brain a wiwerod llwyd. Yma ac acw, mae'n achosi problemau i giperiaid trwy fwyta ffesantod.

Gwalch glas

Mae'r gwalch glas yn berthynas agos i'r gwalch Marthin, ond mae'n llawer llai ac yn fwy tebygol o gael ei weld yn hela adar yr ardd, yn enwedig wrth y bwrdd bwydo adar. Mae'r aderyn yma eto wedi ymgartrefu yn y coed conwydd ac yn eithaf cyffredin trwy Gymru gyfan. Prinhaodd ei niferoedd drwy'r 1950au a'r 1960au o achos y DDT a oedd yn cael ei chwistrellu ar gnydau ac a oedd yn mynd i mewn i'w gadwyn fwyd drwy'r adar bach a oedd yn bwyta'r hadau.

Er nad oedd DDT yn lladd adar ysglyfaethus fel y gwalch glas, roedd yn cael effaith andwyol ar eu llwyddiant bridio. Er hynny, ni ddiflanodd y gwalch o Gymru fel y gwnaeth o rannau helaeth o Loegr. Ar ddechrau'r mileniwm newydd mae'r gwalch glas yn aderyn cyffredin a mae'r *Breeding Atlas* (1988-1991) yn dangos bod 3,200 o barau yng Nghymru.

Gwalch glas.

Bwncath

Hwn yw aderyn ysglyfaethus mwyaf cyffredin a chyfarwydd Cymru gan ei fod yr un mor gartrefol yn yr ucheldir gwyllt ag yw ar ffermdir yr iseldiroedd. Mae'n aderyn sy'n bwyta amrywiaeth o fwydydd, o fwydod mewn caeau (lle ceir hyd at 40 o fwncathod gyda'u gilydd ar adegau) i drychfilod, cwningod ac ysgerbydau. Mae'n aderyn cyfarwydd iawn ar bolion teligraff wrth ochr y ffordd a bydd yn manteisio ar gyrff yr anifeiliaid sydd wedi cael eu lladd gan foduron.

Fe'i gwelir yn aml yn cylchdroi uwchben ar awelon cynnes. Ei hoff gynefin yw cymysgedd o goetir, lle mae'n nythu, a ffermdir, lle bydd yn hela. Er ei fod yn nythu ar ymylon fforestydd conwydd, nid yw wedi manteisio ar y cynefin yma fel y gwnaeth y gwalchod. Er hynny, mae'n gyffredin iawn ac yn dod yn fwy niferus ar Ynys Môn lle y bu, tan yn ddiweddar iawn, yn aderyn prin. Mae'r *Breeding Atlas* yn amcangyfrif bod rhyw 4,000 o barau yn nythu yng Nghymru.

Cudyll coch

Er ei fod yn aderyn cyfarwydd ar hyd ein traffyrdd, mae'r cudyll coch yn prinhau (o 20% dros y 25 mlynedd diwethaf). Gan ei fod yn hofran yn ei unfan mae'n llawer mwy amlwg na'r rhan fwyaf o'n hadar ysglyfaethus, ac mae ei barodrwydd i ymgartrefu yn ein trefi mawrion yn rhoi'r argraff i lawer ei fod yn fwy cyffredin nag ydyw. Nytha'r cudyll coch mewn hen nyth brân, twll mewn coeden, ar adeilad neu ar graig, felly nid prinder mannau nythu sydd wedi achosi'r gostyngiad sylweddol yn ei niferoedd. Y gwir ydi bod y cudyll angen hela dros gaeau ac ucheldir lle mae'r tyfiant yn ddigon tal i gynnal nifer fawr o lygod a thrychfilod, ei brif brae. Ond mae tir fel hwn yn diflannu'n gyflym oherwydd y cynnydd yn y nifer o ddefaid. Er gwaetha'r ffaith bod ei niferoedd yn gostwng, nid yw'n aderyn prin ond mae amcangyfrif y *Breeding Atlas* o 3,500 o barau yng Nghymru yn debygol o fod yn rhy uchel.

Cudyll bach

Ar ddechrau'r 20fed ganrif, roedd y cudyll bach yn niferus yn yr iseldir yn ogystal â'r ucheldir. Bryd hynny, nythai llawer pâr ar y rhostiroedd a'r twyni tywod o amgylch yr arfordir ond fel y dinistriwyd y cynefinoedd hyn, diflannodd yr adar. Yn ôl arolwg a wnaethpwyd yn y 1970au, roedd rhyw 150 o barau yn nythu yng Nghymru. Dim ond deng mlynedd yn ddiweddarach, roedd pryder mawr gan fod llawer o barau'n diflannu o'u tiriogaethau traddodiadol. Ni wnaethpwyd arolwg manwl tan 1993. Dangosodd canlyniadau'r arolwg hwnnw bod o leiaf 84 o barau yn y wlad a'i bod yn debyg bod y gwir gyfanswm rhwng 90 a 100 o barau. Roedd pob un o'r rhain yn yr ucheldir a thros hanner ohonynt yn nythu mewn hen nythod brain ar ymylon coed conwydd. Ar yr ucheldir hwn, yn ôl gwaith ymchwil a wnaethpwyd, mae'r cudyll bach angen ardaloedd eang o rostir agored er mwyn hela'i brae.

Hebog yr ehedydd

Hwn a boda'r mêl yw'r unig adar ysglyfaethus mudol yng Nghymru. Mae'r ddau ohonynt yn treulio misoedd y gaeaf yn ne'r Affrig. Yn draddodiadol, mae'r hebog yma'n cael ei gysylltu â rhosdiroedd iseldir siroedd deheuol Lloegr fel Dorset a Hampshire ond erbyn heddiw, mae'r boblogaeth Brydeinig wedi lledaenu ac mae'n nythu yn o leiaf saith o hen siroedd Cymru. Dechreuodd nythu'n gyson yng Nghymru – am y tro cyntaf yng Ngwent yn y 1960au hwyr – a'r sir yma yw

ei gadarnle hyd at heddiw. Mae'n amhosibl cael cyfrif pendant o'r parau sy'n nythu'n flynyddol yng Nghymru ond mae'n debygol o fod tua 35.

Hebog tramor

Hwn yw'r aderyn cyflyma' yn y byd! Mae'r hebog tramor yn gallu plymio ar ôl ei brae ar gyflymdra o hyd at 200 milltir yr awr. Fel y rhan fwyaf o'n hadar ysglyfaethus, mae wedi dioddef yn erchyll oherwydd iddo gael ei erlid gan ddyn yn y gorffennol a hyd yn oed heddiw, mewn ardaloedd fel cymoedd y de, mae'n cael ei saethu a'i wenwyno'n ddi-drugaredd. Mae'r hebog tramor, serch hynny, wedi cael ei edmygu a'i ddefnyddio hefyd gan ddyn. Roedd hebogiaid ynysoedd Penfro'n cael eu gwarchod gan Harri'r Wythfed fel adar gorau'r wlad ar gyfer heboga. Ers cyn Crist, defnyddiwyd yr aderyn hwn gan y crachach i heboga.

Cafodd cemegau gwenwynig DDT effaith andwyol iawn ar yr adar yma ac yng Nghymru, gostyngodd eu niferoedd o 147 cyn yr Ail Ryfel Byd i chwech yn 1963. Ers 1963, mae'r boblogaeth wedi cael ei chyfrif bob deng mlynedd ac yn 1991, roedd tua 250 o barau yng Nghymru. Heddiw, er gwaethaf yr erledigaeth mewn rhai ardaloedd, mae'r boblogaeth yn siwr o fod dros 300 o barau.

Casgliadau

Y newyddion da, felly, yw bod pob rhywogaeth o adar ysglyfaethus yng Nghymru yn dal ei thir neu'n cynyddu, heblaw am y cudyll coch. Mae rhai, fel y barcud a'r gwalch Marthin wedi dod yn ôl o ebargofiant ac eraill fel y boda tinwyn a hebog yr ehedydd wedi dechrau nythu yma'n gymharol ddiweddar. Gan eu bod ar ben y gadwyn fwyd, o gofio effeithiau pethau megis DDT, mae'n holl bwysig ein bod yn parhau i gadw llygad barcud ar boblogaethau'r adar yma. Nad anghofiwn chwaith bod niferoedd sawl rhywogaeth yn isel o'i gymharu â'u niferoedd ers talwm.

Er gwaetha'r ffaith bod deddfau bywyd gwyllt wedi cael eu cryfhau lawer gwaith dros y chwarter canrif diwethaf, mae ymyrraeth gan ddyn yn dal i fod yn broblem fawr. Bob gwanwyn, bydd casglwyr wyau yn rheibio nythod adar prin fel y barcud ac mewn rhai ardaloedd, mae'r hebog tramor yn cael ei saethu a'i wenwyno'n ddi-drugaredd gan raswyr colomennod. Yn ddiweddar, mae defnyddio trapiau anghyfreithlon fel trapiau polion wedi dod yn fwy cyffredin ac yn flynyddol, mae barcutiaid a bwncathod yn cael eu gwenwyno yn y canolbarth. O achos hyn, mae'n llawer rhy gynnar i ddod â'r gwaith monitro i ben.

Welsh diurnal birds of prey

This paper summarises the status of Welsh diurnal birds of prey in the year 2000. The good news is that most populations are either increasing or stable although there is some concern for the kestrel whose numbers have declined by some 20% over the past 25 years.

Honey buzzards and hobbies have both become regular breeders in recent times whereas hen harriers and goshawks have re-colonised after long absences. The remarkable recovery of the red kite, which now numbers 259 pairs, has been well documented and the Welsh population is now monitored annually by the Welsh Kite Trust. Elsewhere in Britain, the marsh harrier is now widespread but it has yet to re-colonise Wales permanently despite the presence of suitable habitat.

Persecution is still seen as a major threat with egg collectors targeting the rarer species such as the red kite. An ongoing war with rogue pigeon fanciers means that peregrines suffer heavy persecution in areas such as the south Wales valleys. Poisoning takes an annual toll of red kites and common buzzards, particularly in mid-Wales, and a worrying increase in the illegal use of pole-traps was noted during the 1990s.

Llên y llysiau – *bysedd cochion*

gan **Iwan Edgar**

Prosiect a gychwynnwyd gan Gymdeithas Edward Llwyd yw Llên y Llysiau i gofnodi pob math o gysylltiad rhwng pobl Cymru a phlanhigion. Mae'n ceisio casglu gwybodaeth am y rhywogaethau o dan nifer o benawdau, gan gynnwys tarddiad yr enw, cyfeiriadau llenyddol, enwau lleoedd, cofnodion hanesyddol, a'r defnydd o'r planhigion. Os oes gennych unrhyw beth i'w ychwanegu at y manylion isod, cysylltwch a Duncan Brown (rhif ffôn: 01286 650547 neu e-bost: dbrown.waunfawr@virgin.net).

△ Byse(dd)/bysa(dd) coch(ion)
▲ (dail) byse(dd) (y) cŵn, byse'r cŵn
□ clatsh y cŵn
■ catrish y cŵn (etc.)
● blodyn dail crach(od)

Enw Lladin

Digitalis purpurea: bathwyd y term *digitalis*, sydd yn amlwg yn tarddu o'r Lladin *digitus*, bys, gan Leonard Fuchs [1] gan efelychu'r enw Almaeneg am y planhigyn [2], Fingerhut, (= gwniadur).

Detholiad o enwau eraill

Cymraeg: bys coch, bysedd cochion, bysedd y cŵn, clatsh (/catrish) y cŵn, menig ellyllon, gwniadur Mair, dail crachod (y planhigyn neu'r dail yn unig), ffiol y ffridd, (dail) ffion y ffridd. Saesneg: *foxglove* a nifer helaeth iawn o enwau tafodieithol yn cynnwys *dog's fingers* sy'n cyfateb i fysedd y cwn yn y Gymraeg. [3] Llydaweg: *brulu*. [4] Gwyddeleg Canol: *sian*, [5] o dan y gair ffion. Ffrangeg: *doigtier, gant de Bergère, gants de Notre Dame* (= menig Mair). [6]

Dosbarthiad yr enwau Cymraeg ar draws Cymru

Mae Thomas [7] yn rhoi dosbarthiad o enwau lleol y planhigyn hwn trwy gyfrwng map. Ond cafwyd gwybodaeth fanylach ym 1987 ar ôl i Gymdeithas Edward Llwyd holi pobl ar faes Eisteddfod Genedlaethol Porthmadog beth oedd eu henwau lleol hwy ar y planhigyn. Nodwyd yn eu hadroddiad [8] fod gwahaniaeth sylweddol rhwng y ddau arolwg ac yng ngwaith Thomas a wnaethpwyd yn y 50au a'r 60au "gwelwyd bod yr enw Bysedd y Cwn bron yn gyfyngedig o linell yn cysylltu Dolgellau a'r Drenewydd. 'Bysedd Cochion' oedd yn fwyaf cyffredin i'r gogledd o'r llinell honno. Ond yn ôl yr atebion a gafwyd yn Eisteddfod Bro Madog, roedd 78% o'r 70 o atebion i'r gogledd o Ddolgellau – Drenewydd yn 'Fysedd y Cŵn' gyda 'Bysedd Cochion/ Bys Coch' yn gyfyngedig bellach i Ddyffryn Conwy, Llŷn, gogledd Arfon a Môn! Cawsom 11 o enwau llafar a nifer o enwau eraill sydd yn ddim mwy nag enwau llenyddol bellach mae'n debyg.

Bysedd y Cŵn	245	trwy Gymru
Bysedd Cochion	27	Dyffryn Conwy, Llŷn, gogledd Arfon, Môn
Bysedd Coch	1	Dinas Mawddwy
Bys Coch	5	Eifionydd
Bysedd Cacwn	1	Rhoshirwaun yn Llŷn
Clatsh y Cŵn	14	gogledd Penfro yn fwyaf, Dyfed
Cnecs y Cŵn	1	Llandysul
Dail Crachod	7	Llŷn, gogledd Meirion
Dail Crach	1	Blaenau Ffestiniog
Bysedd Crach	1	Porthmadog

Cafwyd hefyd Bys Blaidd (Bangor), Menyg Mair (Bangor), Menyg y Wrach (Croesor), Menyg y Tylwyth Teg (gogledd Maldwyn), Ffion (Aberhonddu), Ffion y Ffridd (Ysbyty Ifan), ond rwy'n amau mai enwau llenyddol yw y rhan fwyaf o'r rhain bellach."

Un ai bu newid rhwng y 60au a 1987, neu mae'r dull o gasglu'r enwau yn gywirach yn un o'r arolygon na'r llall.

Sylw ar berthynas a tharddiad rhai enwau

Mae'r enw deheuol, clatsh y cŵn, yn tarddu o'r arferion plant a nodir isod o wneud 'clatsh' neu glec gyda'r blodyn. Y mae ôl-ddodiad 'y cŵn' fel arfer yn dynodi rhywbeth israddol, gwaelach.

Enw traddodiadol mewn llawysgrifau llysieuol a meddyginiaethol Cymraeg rhwng 1400 a 1700 yw ffiol y ffridd. Ceir amrywiadau fel dail y ffion ffrwyth arno. Tybiaf hefyd i dermau gael eu llurgunio wrth eu trosglwyddo o genhedlaeth i genhedlaeth e.e., ffion i ffiol a ffridd i ffrwyth.

Y mae perthynas amlwg rhwng enwau mewn nifer o ieithoedd, ond nid yw hynny'n annisgwyl gan y gallai gwahanol bobloedd fod wedi taro ar yr un disgrifiad yn hollol annibynnol o'i gilydd. Golyga ffion 'rosyn' neu liw rhosyn, ac y mae'r enw cytras Gwyddeleg Canol *sian* [5] yn cael ei ddefnyddio am y planhigyn hwn. Felly 'rhosyn (neu liw rhosyn) y ffridd' fyddai ystyr tebygol ffion y ffridd. Mae Geiriadur P. C. [5] yn nodi enwau eraill sy'n tarddu o'r ffurf hon gan gynnwys *fionauc* o Hen Lydaweg sy'n gysylltiedig â'r Lladin *rosarium*. Noder hefyd fod yr enw Llydaweg *brulu* yn gytras â'r Gymraeg *briallu* (cymharer â'r Lladin: *prima rosa* 'rhosyn cyntaf').

Enw person, enw lle

Daeth ffion yn gyffredin o'r ugeinfed ganrif ymlaen fel enw merch. Ond rhosyn ydyw ystyr gwreiddiol y gair a thebyg mai yn yr ystyr hwnnw y'i defnyddiwyd fel enw merch. Tybia Angharad Tomos yn ei hunangofiant, *Cnonyn Aflonydd*, mai ei modryb oedd y gyntaf i gael yr enw hwn!

Un enw lle yn unig y gwn amdano a allai fod a'i wreiddyn yn y planhigyn hwn, sef tyddyn yn Llanbedrog o'r enw 'Bys Coch'.

Llên gwerin

Arferiad yng Nghymru [3] oedd gosod croesau ar gerrig llawr i gadw'r tylwyth teg draw. Yn Iwerddon [9] defnyddid diferion o'r planhigyn i warchod rhag i'r tylwyth teg ddwyn eu plant.

Arferion plant

- Gosod blodau ar flaenau bysedd i wneud ewinedd mawr cochion
- Dal cacwn yn y blodyn i'w wylltio
- Taro blodyn caeedig ar gledr y llaw i wneud clec neu wasgu dau ben blodyn aeddfed rhwng bysedd y ddwy law i greu swigan neu boethell, a'i glecio neu gatshio
- Defnyddio'r coesau fel cleddyfau wrth chwarae.

Bysedd cochion Digitalis.

Cyfeiriadau llenyddol

Mae gan Grigson [3] gyfeiriad at chwedl Culhwch ac Olwen. Meddai – lle disgrifia beirdd Lloegr ruddiau geneth fel rhosyn, mae beirdd Cymru yn cymharu bochau Olwen '*to the foxgloves of their upland country*' (tud 326). Ffynhonnell yr hyn a ddywed Grigson yw Llyfr Gwyn Rhydderch, '*Oed kochach y deu rudd nor fion*', sef 'Oedd cochach ei dau rudd na'r ffion' [10]. Ond ffion, y rhosyn, a olygir yn [10] nid bysedd y cŵn.

Meddyginiaethol a chemegol

Dyma a ddywed William Salesbury am rinweddau'r planhigyn hwn yn ei lysieulyfr [11, 12]. 'Dinam mae da yw/r/llyseun hwn pan vo rhaid na theneuhau, golchi, na charthy na rhyddhau. Erwydd pa am mal y dywaid Galen: Blasae chwerwon a ylch ac a garthant ac a laddant y ceulet a vo yn y gwythi. Ac wrth hynny y gwaredant termae y merchet ac y parant y ampuredd ymady ar ddwyfron ac ar yscyfaint.' Cafodd y wybodaeth o weithiau Leonard Fuchs a William Turner, a'r wybodaeth honno'n deillio o'r gweithiau clasurol.

Eglurir pam y gelwir y planhigyn yn ddail crachod yn y dyfyniad hwn o waith D.T. Jones [13]. 'Fox Glove, neu Fenyg y llwynog, neu Ddil [sic] bysedd cochion … mae y dail hyn yn glanhau briwiau yn raddol gyd a'r tynerwch mwyaf … A myfi a fentraf ddywedaf wrthych nad oes moi gwell i'w gwneud yn eli gyda bloneg i wella crach mewn pen.'

Yn niwedd y ddeunawfed ganrif aeth William Withering ati i asesu gwerth y planhigyn hwn yn wyddonol, a chanfod fod y planhigyn yn un grymus ei effaith ar y galon. Hyn a barodd i *digitalis* gael ei ddefnyddio'n sylweddol mewn meddygaeth fodern – y mae ganddo'r gallu i arafu'r galon. Diddorol yw nodi y cesglid y dail yn ystod yr ail ryfel byd, a'u sychu, yn aml dan drefn Sefydliad y Merched. Yn Nhrefaldwyn, defnyddid llofft uwchben becws i sychu'r dail [14].

Yr elfennau gweithredol yn y llysieuyn yw *digitocsin* a *gitocsin* sydd yn sail i wahanol gyffuriau a all adfywio'r galon. Maent yn gweithio trwy gryfhau grym y curiadau. Gallant hefyd arafu curiad y galon a gwella llif y gwaed trwy'r gwythiennau. Gall dognau o'r cyffur wenwyno o'u rhoi yn rhy aml, gan beri anhawster treulio, diffygion ar y golwg a thrafferthion gyda'r galon, a allai ladd y claf [6].

Honnir bod yr eurgylchau a'r lliw melyn helaeth sydd yn lluniau Vincent Van Gogh yn deillio o effaith cymryd dail y planhigyn hwn yn feddyginiaeth. Peintiodd lun ei feddyg ar ddau achlysur yn cydio yn y planhigyn hwn. [15]

Ni chaiff bysedd y cŵn ei fwyta gan anifeiliaid fel arfer ond o'i fwyta, gall yr anifail ddatblygu chwant amdano. Erys gwenwyn yn y planhigyn ar ôl ei sychu neu ei ferwi, a gall gwair sydd â bysedd y cŵn ynddo wenwyno anifeiliaid. Gellir ei drin â gwenwyn arall, sef atropin (o geirios y Gŵr Drwg, *Atropa bella-dona*). [15]

Cynefin bysedd y cŵn

Defnyddir fel planhigyn gardd bellach, a cheir rhai gwyn a rhai melyn hefyd. Drwy'r broses o fridio mathau i'r ardd mae blodau'r mathau ar gyfer yr ardd yn amgylchynu'r goes, ac nid bob ochr i'r goes fel y math gwyllt. Dim ond dail a gynhyrchir o had yn y flwyddyn gyntaf, ond mae'n bosibl dewis, bryd hynny, y rhai sy'n mynd i flodeuo'n wyn yn eu hail flwyddyn trwy ddewis y planhigion sydd â dail efo coesau gwyrddion. Mae gwawr goch ar y rhai fydd yn blodeuo'n goch.

Yn wyllt, mae'r llysieuyn hwn yn un o'r planhigion cyntaf i sefydlu ar ôl dinoethi pridd cleiog, neu ar ôl chwistrellu rhedyn i'w ladd. Daw'n amlwg iawn am gyfnod byr ar ôl dinoethi pridd mwynaidd, sur.

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Llên y Llysiau *(the Lore of Plants)*

… is a project initiated by Cymdeithas Edward Llwyd to collect information on the cultural connections of plants in Wales and to celebrate them. These connections include literary references, origins, place names, historical references and the uses of plants.

This article is itself a summary of the etymology of the Welsh terms for foxglove and as such, it cannot be summarised factually in English. It covers the geographical distribution of its names in Wales, references to the plant in early manuscripts, relation to place names and personal names, references in folk and other literature, habitat preferences and its medicinal use.

If you have any anecdotes about plants or factual contributions which would add to our stock of information, the project group would like to hear about them.

Green **Bookshelf**

James Robertson, Andy Jones, Duncan Brown

The Red Kite

Ian Carter. Hardback. Arlequin Press 187 pp. £22.50
ISBN: 1-900159-61-9

Red Kites

David Minns & Doug Gilbert. P/back. SNH. 22 pp. £3.95
ISBN: 1-85397-067-1

That most emblematic of Welsh birds, the red kite, is the subject of two new publications. The first is a full-length, richly illustrated monograph by Ian Carter. Devotees of other monographs, for example in the New Naturalist and Poyser series, will be delighted with this new title. Everything you might want to know about the red kite is here, and the text is shot through with references to scientific papers. This does make it a little impersonal, not like the early monographs which were testaments to individual dedication; perhaps not a rip-roaring read, then, but an important reference work and a valuable addition to the shelves of the keen naturalist.

The other title, *Red Kites*, is a much briefer exploration of the life of this newly imported Scottish resident. Published by Scottish Natural Heritage, the cover prominently proclaims it, without a trace of irony, to be part of SNH's 'Naturally Scottish' series. As it is only 22 pages, you would expect its authors to pack as much into it as possible. Sadly, most of the booklet consists of white space or illustrations. The small typeface makes the text hard to read, which is perhaps not as great a loss as it should be. While moderately informative, it is at times dull, and has the hallmarks of a work of duty, not a labour of love.

All this publishing activity outside Wales, inspired by the new kite populations in England and Scotland, leaves Wales' red kites looking rather unloved. The world of the red kite has changed radically since the publication of Roger Lovegrove's *The Kite's Tale* more than a decade ago, because of the huge reintroduction programme. Naturalists in Wales will have some misgivings about this programme. Native Welsh red kites would have spread to England, and in time to Scotland, naturally. Instead we have birds of Spanish origin setting up home in Wales, probably at the expense of the native population. So much for preserving genetic diversity.

For all that, the reintroductions have had indirect conservation benefits, as well as thrilling a larger human population with kite antics and elegance. They have also raised enough interest to spawn an excellent new book, and an indifferent booklet. How about a third publication, under the series title 'Naturally Welsh?'

James Robertson

Mae adferiad y barcud mewn ardaloedd o'r Alban a Lloegr wedi arwain at ddau gyhoeddiad newydd amdano – llyfr ardderchog a thaflen symol. Mae popeth sydd angen ei wybod am y barcud i'w gael ym monograff Ian Carter, er bod y cyfeiriadau at bapurau gwyddonol yn ei wneud braidd yn amhersonol. Heb fod yn gyffrous i'w ddarllen, mae'n llyfr gwybodaeth o bwys. Pamffled di-fflach yw'r cyhoeddiad arall mewn cyfres gyda'r teitl di-eironi Naturally Scottish. Lluniau a darnau gwyn sydd amlyca' ynddi ac, er bod y teip yn anodd ei ddarllen, dyw hynny ddim yn golled anferth.

Sea Beans and Nickar Nuts:

a handbook of exotic seeds and fruits stranded on beaches in north-western Europe E. Charles Nelson. Botanical Society of the British Isles. London 2000. ISBN 0-901158-29-1. pp156 (Illust.) £13.95

So long as your bookseller or librarian hasn't completely misunderstood what nickar nuts are, this book should be shelved under 'Natural History'. Then again, it could be placed under 'Hobbies', 'Gardening' or 'Magic and the Occult'. It is actually about all of these things and, at the same time, in a class of its own. 'Sea Beans etc.' is a practical guide to strange natural phenomena: the seeds of tropical plants which float across thousands of miles of ocean for months or years and then wash up, particularly after winter storms, along western shores (eg. Wales).

This book tells you how to identify everything from Sea Pea, Moonflower, Hamburger Bean, Railway-vine, Beach Morning-glory, Banga-wanga (Scotsman's Rattle), Vulture's Eye and Coconut to – even – 'Nickar Nut'. It tells you when, where and how to look for them and what to do with them when you find them. Nelson recommends planting them in a mixture of one part sharp sand to two parts John Innes No. 1, but offers handy alternative uses, such as snuff-boxes, teething objects and key-minders.

Behind all this, and as a kind of origin-myth, he also gives a wonderfully straight-faced account of what they signify, from ancient Scania, where they were 'supernatural kidneys', 'eagle stones' and childbirth and cattle charms to the Azores, where they became connected (at least in the mind of Christopher Columbus) with stray bodies and canoes. Nowadays we should probably see them as indicators of the North Atlantic Current and the Gulf Stream.

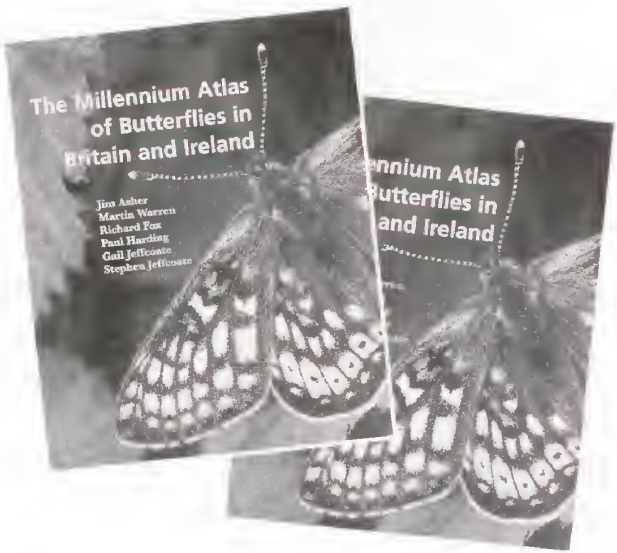
The commonest superstition attached to drift-seeds is that they are lucky. We learn that in Pembrokeshire 'seeds were made into lockets or brooches so they could be worn, as this would ensure good luck'. Elsewhere, for instance, sea beans have been used 'to ensure success at O-level' and this, in itself, should do no harm for sales to young readers. 'Sea Beans and Nickar Nuts' will actually be enjoyed by beach-combers of all ages (and perhaps those with a heated greenhouse in particular) but it will not, of course, guarantee a find.

For that you will have to wait for the next winter storms. And get lucky.

Andy Jones

Gallai'r llyfr yma fod ar y silff byd natur, neu hobïau, neu arddio, neu Hud. Mae mewn dosbarth ar ei ben ei hun hefyd – cyflwyniad i hadau planhigion trofannol sy'n morio ar wyneb y môr am hydoedd cyn cyrraedd llefydd fel Cymru.

Mae'r llyfr yn dangos sut i'w hadnabod – hyd yn oed y gneuen Nickar – yn dweud beth i'w wneud â nhw a beth yw eu symboliaeth. Y gred fwya' cyffredin, yn Sir Benfro er enghraifft, yw eu bod yn lwcus. Ond bydd rhaid aros tan stormydd y gaea' i fod yn ddigon lwcus i'w ffeindio.



The Millennium Atlas of Butterflies in Britain and Ireland:

J Asher ac eraill (2001) Gwasg Prifysgol Rhydychen 433 tud. Clawr caled. £30.00 ISBN 0-19-850565-5.

Gyda thranc y pyllau glo, tybed faint o bobl erbyn hyn sydd yn gwybod am ganeri'r colier. Pwrpas y caneri yn y pwll oedd, trwy ei farwolaeth, rybuddio'r glowyr am nwyon gwenwynig. Daw gwasanaeth tebyg heddiw oddi wrth loynnod byw.

I'r rhai sydd â llygad craff, mae rhybyddion amlwg am gyflwr ein hamgylchedd i'w gweld yn y *Millennium Atlas of Butterflies in Britain and Ireland 1*, cyfrol sydd yn cyflwyno gwybodaeth newydd am hynt a helynt gloynnod byw ym Mhrydain. Dyma olwg ar y gyfrol o safbwynt Cymru. Yn wahanol i'r hyn yr ydym efallai wedi dod i ddisgwyl gan lawer o'r proffwydi gwae, nid stori o brinhau a thrai a thranc yn unig sydd yma. Mae'n stori o ennill yn ogystal â cholli. Ond mae tro yn y gynffon.

Yn ôl *Atlas y Mileniwm* dyma rai o'r gloynnod sydd wedi ennill tir yng Nghymru ers yr arolwg gloynnod byw cyntaf ym Mhrydain yn y 70au: y gwibiwr bach *Thymelicus sylvestris*, y brithribin porffor *Neazephyrus quercus*, glesyn y celyn *Celastrina argialus*, y gwrmyn glas *Aricia agestis*, melyn y rhafnwydd *Garepteryx rhamni* (yn yr ardaloedd lle mae rhafnwydd *Rhamnus catharctica* yn tyfu), boneddiges y wig *Anthocharis cardamines*, y peunog *Inachis ia* a'r adain garpiog *Palygonia c-album*.

Mae'r rhesymau am eu llwyddiant yn ddadlennol. Mae'r newid yn yr hinsawdd wedi bod o fudd i bob un, yn enwedig y gwibiwr bach a ymledodd yn ddramatig i siroedd y gogledd dros y cyfnod. Mae'r brithribin porffor yn ffynnu oherwydd mesurau cadwriaethol fel plannu mwy o goed derw ac amddiffyn mwy o goedwigoedd rhag cael eu pori. Mae'n cael mantais hefyd gan fod y dderwen yn blaguro'n gynharach oherwydd y newid yn yr hinsawdd. Mae'r glesyn yntau yn mwynhau'r celyn a'r eiddew cynyddol sydd yn ffynnu yn yr un math o goedwig ddi-ddafad. Ar eu cynefin arbennig yn unig y mae'r gwrmyn glas a'r melyn rhafnwydd wedi ennill tir, y naill ar galchfaen ardal y Creuddyn yn y gogledd, a'r llall yn yr ardaloedd lle mae rhafnwydd (ei unig fwyd) yn tyfu. Mae'r peunog a'r adain garpiog ill dau yn bwyta danadl poethion, planhigyn sydd yn manteisio ar y neitradau cynyddol a diangen sydd yn cael eu rhoi ar y tir.

Ond beth am y rhywogaethau sydd wedi colli tir? Yn eu plith mae'r brithribin gwyrdd *Callophrys rubi* (rhywogaeth sydd yn dioddef fel canlyniad i orbori ffriddoedd, ac yn eironig, oherwydd ymdrechion cadwraethol i greu coedwigoedd dwysach); y brithribin brown *Thecla betulae* (oherwydd difetha gwrychoedd neu eu chwipio gyda ffust fecanyddol), glesyn bach *Cupido minimus* (oherwydd gwella porfeydd naturiol a phori rhy ysgafn).

Clymu hanes yr ennillwyr a'r collwyr at ei gilydd y mae'r fritheg arian Argynnis paphia. Mae ei hanes fel petai'n feicrocosm o'r hyn sydd yn digwydd i'r gloynnod yn gyffredinol, ac yn air i gall. Mae'r Atlas yn dangos fod y gloyn hwn wedi prinhau'n sylweddol yng Nghymru ers dechrau'r 20ed ganrif. Diflannodd yn gynnar o siroedd y gogledd, a phoblogaeth denau iawn sydd yn yr ardaloedd i'r de o'r Ddyfi erbyn heddiw. Ond mae'r Atlas hefyd yn dangos nid yn unig bod y fritheg arian yn prinhau dros y tymor hir yn ei chadarnleoedd ond mae hefyd wedi adfeddiannu parthau'r gogledd yn ystod y 90au mor belled â ffin ogleddol Powys. Nid yw hyn yn llawer o gysur fodd bynnag, fel yn achos amryw o rywogaethau eraill, yn wyneb y colledion yn ei chadarnleoedd.

Prif neges y wybodaeth am Gymru sydd wedi ei chyflwyno yn yr Atlas yw bod dwy broses ar waith ym myd y gloynnod byw. Ar y naill law mae colli cynefin a llygredd yn lleihau poblogaethau'r gwahanol loynnod yn eu cadarnleoedd, ond ar y llaw arall maent yn ymledu i'r gogledd i gynefinoedd addas fel mae'r hinsawdd yn cynhesu. Er gwaethaf yr enillion, mae'r ddwy broses hon yn achosi pryder, y naill ar raddfa leol am ein bod yn parhau i gamdrin cynefinoedd lled naturiol, a'r llall ar raddfa fwy, am ein bod yn parhau i drin yr atmosffer fel bin sbwriel gan achosi Effaith y Tŷ Gwydr.

Duncan Brown

The Millennium Atlas of Butterflies in Britain and Ireland (OUP) gives a mixed message to butterfly conservationists. Climate change and conservation measures which improve butterfly habitats have enabled some species to extend their range, mainly to the north.

On the other hand, populations of other species have declined because of habitat destruction due to factors such as over-grazing, pollution, destruction and degradation of hedgerows and pasture 'improvement'. The silver-washed fritillary, however, combines both these trends in that its numbers have declined during the last century but its distribution has extended further north in Wales, due presumably to global warming.

Assembly *Notebook*

Michele Hunt

As we start a fresh term at the Assembly, it may be easy to put behind us what has happened in the last six months including the recess period. It has certainly been an eventful summer term, and one that we would not wish to see repeated with regards to the Foot and Mouth disease crisis. This disease came at a bad time for all rural businesses, affecting agriculture and tourism related businesses alike, and has changed the future course of farming forever. On a more positive note, many environmental and farming organisations feel that although the foot and mouth crisis has certainly been a tragedy, it has also provided an opportunity for farmers to review methods of income and look towards sustainable and wildlife friendly agri-environment schemes such as Tir Gofal.

It has also been seen as an opportunity to encourage the return of wildlife that has not been seen for many years to common land, for example the Brecon Beacons. In an article in the Western Mail supplement on Farming and Countryside issues, Dr. John Taylor, Director of Countryside Policy for CCW explained that the Brecon Beacons have been heavily stocked and would benefit from less grazing. He stated "We need to get a better balance between grazing and conserving the landscape and wildlife of the famous National Park. CCW would like to discuss with farmers and the Assembly future stocking levels that will give agriculture a sustainable future and safeguard the internationally important environment of the Beacons". [1]

In order to assist in the rural recovery programme, Sue Essex, Minister for the Environment was responsible for calling for the re-opening of footpaths and access to the countryside in areas free from the disease, whilst providing funding to assist the arrest of the spread of Foot and Mouth. On 16th May she stated "The Assembly fully understands that assessing where access can safely be permitted has clear resource implications for local authorities and the National Parks. For this reason we have backed up the guidance by activating a Bellwin Scheme of funding, allowing councils to claim re-imbursement from the Assembly for the additional costs of temporary fencing and other measures to help prevent spread of foot and mouth." The Assembly is also playing its part in promoting access. With this in mind, the Countryside and Rights of Way Act 2000 regulations are starting to be implemented through the issuing of two consultations over the recess period, namely the Mapping regulations and the establishment of the Local Access Forums.

Staying with tourism and coastal issues, Sue Essex in May launched for public consultation the draft Marine Aggregates Dredging Policy (MADP), which will be used to help determine future sand dredging activities off the coast of South Wales. When finalised, this document will provide strategic and area-based guidance for dredging in Welsh waters within the Bristol Channel and Severn Estuary.

Shortly before recess, Sue Essex commissioned National Assembly research into improving understanding of the coastal environment and a new series of papers called *Applied Research into Environmental Planning* which will cover coastal as well as other issues over time. The series will promote best practice and allow communication of environmental work to a wide audience by adopting a more 'popular' style. The first paper, to be published soon, will examine cliff instability along the Glamorgan Heritage Coast; followed by a paper on the topographic and habitat survey at the Kenfig National Nature Reserve, and the importance of this work to the future management of the biodiversity at this internationally important site. July has also seen the setting up and first meeting of the Coastal partnership to help inform Assembly policy on coastal issues. Interest groups from the public, private and voluntary sectors form the new partnership, which will exchange information and best practice, in addition to providing a forum for debate on coastal matters such as climate change, aggregates dredging, marine conservation designations and offshore renewable energy projects.

There have been two new additions to the Natura 2000 network as the Assembly has agreed to the classification of Craig yr Aderyn (Bird Rock) Gwynedd and the Dyfi Estuary as Special Protected Areas in Wales under the EC Birds Directive. They have been submitted to the European Commission for inclusion in the Natura 2000 network under the Habitats Directive.

[1] *Western Mail – Country and Farming Supplement* 14/08/01 p.8/9

At the time of writing **Michele Hunt** was the National Assembly Information Officer for Wales Wildlife and Countryside Link. This post has been funded by members of Wildlife Link to keep subscribing members up-to-date with all aspects of National Assembly business that impact on, or address the concerns of the environmental organisations working in Wales.

Nodiadau o'r **Cynulliad**

Michele Hunt

Wrth inni ddechrau ar dymor newydd yn y Cynulliad, efallai ei bod yn hawdd gosod o'r tu ôl i ni yr hyn a ddigwyddodd yn ystod y chwe mis diwetha', gan gynnwys cyfnod y gwyliau. Yn sicr mae wedi bod yn dymor haf llawn digwyddiadau ac yn un na fydden ni'n dymuno'i weld eto, o ran argyfwng clwy'r Traed a'r Genau. Daeth y clefyd ar adeg wael i bob busnes gwledig, gan effeithio ar fusnesau amaeth a thwristiaeth fel ei gilydd, ac mae wedi newid cyfeiriad ffermio am byth.

Ar nodyn mwy cadarnhaol, mae llawer o fudiadau amgylchedd a ffermio yn teimlo fod yr argyfwng Traed a'r Genau, er ei fod yn sicr yn drychineb, wedi rhoi cyfle hefyd i ffermwyr adolygu ffynonellau incwm ac edrych tuag at gynlluniau cynaliadwy ac amaeth-amgycheddol sy'n garedig at fywyd gwyllt, fel Tir Gofal. Mae hefyd wedi'i weld yn gyfle i gael bywyd gwyllt yn ôl ar diroedd comin lle bu'n ddieithr ers blynyddoedd, a hynny trwy edrych eto ar faint o ddefaid sy'n pori, er enghraifft ar Fannau Brycheiniog. Mewn erthygl yn atodiad ffermio a chefn gwlad y Western Mail, eglurodd Dr. John Taylor, Cyfarwyddwr Polisi Cefn Gwlad Cyngor Cefn Gwlad Cymru, fod y Bannau wedi eu stocio'n drwm ac y bydden nhw ar eu hennill o gael llai o bori. Dywedodd, "Mae angen i ni daro ar well cydbwysedd rhwng pori a gwarchod tirwedd a bywyd gwyllt y Parc Cenedlaethol enwog. Byddai CCGC yn hoffi trafod gyda ffermwyr a'r Cynulliad er mwyn cael lefelau stocio yn y dyfodol a fyddai'n cynnig dyfodol cynaliadwy i amaethyddiaeth ac yn diogelu amgylchedd y Bannau, sydd o bwys rhyngwladol". [1]

Er mwyn helpu'r broses o adfer cefn glwad, galwodd Sue Essex, y Gweinidog tros yr Amgylchedd, am ailagor llwybrau a mynedfeydd i gefn gwlad mewn ardaloledd di-glefyd, tra'n cynnig arian i helpu atal clwy'r Traed a'r Genau. Ar Fai 16, dywedodd, "Mae'r Cynulliad yn deall yn iawn fod goblygiadau ariannol clir i awdurodod au lleol a'r Parciau Cenedlaethol oherwydd y broses o asesu ble y mae'n ddiogel i ganiatáu mynediad. Oherwydd hyn, rydym wedi cefnogi'r cyngor a roddwyd gennym trwy roi ar waith gynllun ariannu Bellwin, sy'n caniatáu i gynghorau ofyn am ad-daliad gan y Cynulliad am gostau ychwanegol gosod ffensydd dros dro a dulliau eraill o rwystro lledaeniad Traed a'r Genau." Mae'r Cynulliad hefyd yn chwarae ei ran yn hybu mynediad. O gofio hyn, mae rheoliadau'r Ddeddf Cefn Gwlad a Hawliau Tramwy 2000 yn dechrau cael eu gweithredu trwy gyhoeddi dau ymgynghoriad yn ystod cyfnod y gwyliau, sef y rhai sy'n ymwneud â rheoliadau Mapio a ffurfio Fforymau Mynediad Lleol.

Gan aros gyda materion twristiaeth a glan môr, lansiodd Sue Essex Bolisi Carthu Agregau'r Môr (MAPD) ar gyfer ymgynghori. Bydd hwnnw'n helpu i benderfynu faint o dywod sy'n cael ei godi o'r môr ger glannau De Cymru. Ar ôl ei gorffen, bydd y ddogfen yma'n rhoi cyngor strategol a chyngor fesul ardal ar gyfer codi tywod a graean o ddyfroedd Cymreig o fewn Môr Hafren ac aber afon Hafren.

Ychydig cyn y gwyliau, comisiynodd Sue Essex ymchwil ar ran y Cynulliad Cenedlaethol i gael gwell dealltwriaeth o amgylchedd y glannau ynghyd â chyfres newydd o bapurau, o'r enw *Ymchwil Cymhwysol i Gynllunio Amgylcheddol* a fydd ymhen amser yn cynnwys materion glannau môr a phynciau eraill. Bydd y gyfres yn hyrwyddo'r arferion gorau ac yn cyflwyno gwaith amgylcheddol i gynulleidfa ehangach trwy arddull fwy 'poblogaidd'. Bydd y papur cynta', sy'n cael ei gyhoeddi'n fuan, yn edrych ar ansefydlogrwydd clogwyni ar hyd Arfordir Treftadaeth Morgannwg; a hwnnw'n cael ei ddilyn gan bapur am yr arolwg o dopograffi a chynefinoedd yng Ngwarchodfa Natur Genedlaethol Cynffig ac am bwysigrwydd y gwaith o ran dulliau'r dyfodol o reoli bioamrywiaeth yn y safle hwn, sydd o bwys rhyngwladol.

Ym mis Gorffennaf hefyd gwelwyd sefydlu a chynnal cyfarfod cyntaf Partneriaeth y Glannau i gyfrannu gwybodaeth yn sail i bolisi'r Cynulliad ar gyfer y glannau. Mae grwpiau perthansol o'r sectorau cyhoeddus, preifat a gwirfoddol yn rhan o'r bartneriaeth, a fydd yn cyfnewid gwybodaeth ac arferion da, yn ogystal â chynnig fforwm ar gyfer trafod materion y glannau, fel newid hinsawdd, codi agregau, dynodi ardaloedd cadwraeth morol a phrosiectau ynni adnewyddol yn y môr.

Cafwyd dau ychwanegiad at y rhwydwaith Natura 2000 wrth i'r Cynulliad gytuno â'r penderfyniad i ddynodi Craig yr Aderyn yng Ngwynedd ac aber afon Dyfi yn Ardaloedd Gwarchod Arbennig yng Nghymru o dan Orchymyn Adar yr Undeb Ewropeaidd. Maen nhw wedi eu cynnig i'r Comisiwn Ewropeaidd ar gyfer eu cynnwys yn y rhwydwaith Natura 2000 o dan y Gorchymyn Cynefinoedd.

[1] *Western Mail – Country and Farming Supplement* 14/08/01 t8/9

Ar adeg ysgrifennu'r erthygl, **Michele Hunt** oedd Swyddog Gwybodaeth y Cynulliad Cenedlaethol ar ran Dolen Natur a Chefn Gwlad Cymru. Aelodau'r Ddolen sy'n talu am y swydd hon er mwyn rhoi gwybod i aelodau'r mudiadau am y diweddara' ynglŷn â phob agwedd o waith y Cynulliad Cenedlaethol sy'n effeithio ar y mudiadau amgylcheddol sy'n gweithio yng Nghymru, neu yn delio â'u pryderon.

Biodiversity *Round-up*
Newyddion Bioamrywiaeth

Cynhadledd yng Nghaerdydd i baratoi at Johannesburg

Ymhen blwyddyn cynhelir Uwch-Gynhadledd y Ddaear yn Johannesburg, De Affrica, ddeng mlynedd ar ôl cynhadledd nodedig Rio de Janeiro. Roedd honno yn gynhadledd arwyddocaol o sawl cyfeiriad ond yn bennaf yn y modd y rhoddwyd llwyfan i'r amgylchedd ar raddfa byd-eang a'i dynnu am y tro cyntaf i ganol trafodaethau gwleidyddol rhyngwladol. Cynhelir Uwch-Gynhadledd y Cenhedloedd Unedig yn Johannesburg o Fedi'r 2il tan yr 11eg, 2002.

O Rio i Johannesburg

Ymhlith y cytundebau a ddeilliodd o Rio, ar Newid Hinsawdd ac Agenda 21, mae'r Cytundeb ar Amrywiaeth Biolegol sy'n ceisio diogelu bioamrywiaeth a systemau naturiol ein byd. Nodwedd o'r Cytundeb yw'r ystod eang o bynciau dan sylw: bioddiogelwch, rhywogaethau prin ac ardaloedd o dan warchodaeth. Mae bioddiogelwch wedi bod yn y newyddion yn ddiweddar oherwydd y pryder ynglyn â sgil-effeithiau negyddol posib ar fioamrywiaeth sy'n deillio o gnydau sydd wedi'u haddasu'n enynnol, sef 'GMs'. Yn Ionawr 2000 aeth Protocol Cartagena ran o'r ffordd i amlygu'r dasg o geisio diogelu symudiadau cynnyrch GM. Mae'r Cytundeb yn cydnabod hawliau llywodraethau unigol dros adnoddau genynnol a'r hawl i rannu'r wybodaeth er lles cymunedau lleol.

Yng ngwledydd y gorllewin, mae'r pwyslais wedi bod ar rywogaethau prin ac ardaloedd o dan warchodaeth. Yn lleol y bu'r rhan helaeth o'r gwaith yn cael ei wneud – yng Nghymru cyd-drefnwyd y tasgau gan Grŵp Bioamrywiaeth y Cynulliad. Mae'r Cynlluniau Gweithredu Bioamrywiaeth Lleol yn mynd yn eu blaen dan arweiniad y Cyngor Cefn Gwlad yn Nghymru

Ond, ers Rio, er gwaetha'r rhethreg a'r gweithgarwch, dirywio mae nifer o gynefinoedd a diflannu mae llawer o'n rhywogaethau prin. Efallai bod angen mwy o amser i ganlyniadau'r gwaith lleol ddod i'r amlwg, ond un peth sydd yn sicr yw'r angen am gefnogaeth cyson gan y Cynulliad ac arweinwyr lleol. Mae hefyd yn arwyddocaol fod 60% o bobol dlota'r gwledydd llai datblygedig yn byw mewn ardaloedd lle mae'r amgylchedd yn fregus. Er y cyswllt amlwg rhwng tlodi economaidd ac amgylchedd dan fygythiad, yn yr union ardaloedd hyn y mae bioamrywiaeth biolegol ar ei gryfaf, yn enwedig yn y trofannau.

Mae'r ddadl draddodiadol felly wedi canolbwyntio ar ddatblygiad neu'r amgylchedd, h.y., ar bobol neu'r blaned. Yn y gorffennol credid ei bod yn bosibl hybu un heb roi ystyriaeth i'r llall; bellach mae'r alwad am ddatblygiad cynaliadwy wedi chwalu'r gred hon. Y gobaith ar gyfer Johannesburg yw y bydd modd adeiladu ar gytundebau Rio a gweld llywodraethau'r byd yn eu gweithredu. Un o dargedau datblygiad rhyngwladol y Cenhedloedd Unedig yw bod yn rhaid i bob gwlad ddyfeisio strategaeth ar gyfer datblygiad cynaliadwy erbyn 2005, er mwyn gwyrdroi ein dylanwadau mwyaf anghynaliadwy erbyn 2015.

Persbectif gwahanol sydd gan y rhan fwyaf o wledydd tlawd y De. Mae llawer o wledydd yn y trofannau yn dlawd. Yno mae'r bobl leol yn cario'r gost o gynnal yr ardaloedd gwerthfawr hyn heb dderbyn unrhyw fantais economaidd na chymdeithasol. Defnyddir yr ardaloedd hyn gan gwmnïau mawr, cyfoethog fel cronfeydd biolegol a ffynonellau o adnoddau genynnol i'w defnyddio i ddatblygu cynnyrch newydd mewn meysydd megis cnydau, cyffuriau, plaladdwyr biolegol, olew a choluron, neu fel ffynonellau o goed a chrwyn anifeiliaid gwyllt.

Mae'r modd y mae gwledydd cyfoethog y gogledd yn dibynnu ar adnoddau biolegol y de, heb drosglwyddo buddiannau ariannol a thechnoleg pwrpasol yn ôl, dan y chwyddwydr. Mae'r effaith y mae globaleiddio wedi ei gael wedi tynnu nyth cacwn i ben y cwmnïau mawr. Gan fod yr 20% ohonom sy'n byw yn y gwledydd cyfoethog yn defnyddio 86% o adnoddau'r byd, mae ein heffaith ar yr amgylchedd, ein 'ôl troed ecolegol', gymaint yn fwy. Gorfodir pobol y gwledydd llai cyfoethog i ddibynnu fwyfwy ar eu hamgylchedd. O ganlyniad mae gorddibyniaeth ar adnoddau penodol prin megis tir, dŵr a choed tân. Mae amaethyddiaeth yn cael ei drafod fwyfwy yn fyd-eang ac mae galw am symud y drefn bresennol tuag at ddulliau amaethu mwy cynaliadwy.

Cymru a'r Byd

Bydd cynhadledd i godi ymwybyddiaeth o arwyddocâd a phwysigrwydd Johannesburg yn cael ei chynnal gan y Cynulliad, mewn partneriaeth â'r WWF yng Nghymru, ar yr 28ain o fis Chwefror 2002. Rydym yn awyddus i godi ymwybyddiaeth o'r hyn sy'n mynd i ddigwydd yn Ne Affrica, ac i drafod effaith ein ôl troed ar fioamrywiaeth a thlodi yng ngweddill y byd. Mae gan Gymru reswm i wneud yn siŵr ein bod yn barod i 'Fyw'n Wahanol' gyda datblygiad cynaliadwy yn rhan o'n deddfwriaeth. Wedi'r cyfan, pe gallai Cymru lwyddo i ddangos bod modd cael twf economaidd priodol a diogelu ein hamgylchedd gwerthfawr ar yr un pryd, gallem wedyn ddefnyddio'r Uwch-Gynhadledd i arddangos ein llwyddiant.

Haf Roberts, Swyddog Polisi, WWF Cymru.

Am fwy o wybodaeth am yr Uwch-Gynhadledd yn Johannesburg a'r Gynhadledd yng Nghaerdydd, ffoniwch Haf Roberts ar 029 2045 4973.

Cardiff Conference to prepare for Johannesburg

The Earth Summit, also known as the World Summit on Sustainable Development, will take place in Johannesburg on September 2nd to the 11th 2002, to mark ten years since the landmark conference in Rio de Janeiro.

From Rio to Johannesburg

Among the agreements made at Rio, on Climate Change and Agenda 21, was the important Convention on Biological Diversity. This aims to preserve biodiversity and the earth's natural systems. The potential risks from genetically-modified bio-resources are also covered, as are 'sovereign rights' and the equitable use of the benefits from bio-resources. The Convention has required Governments to establish Local Biodiversity Action Plans, which are co-ordinated in Wales by the Wales Biodiversity Group set up by the Welsh Assembly. The link between poverty and environmental degradation is obvious; 60% of the poorest people in the least developed countries live in ecologically fragile areas. These places are often exceptionally rich in wildlife, especially in the tropics.

Traditionally, the interests of the environment and development have been seen as in opposition: people versus the planet. There is now a recognition that we can and must have both, summed up by the sustainable development argument. So important is this concept that one of the UN's International Development Targets is that all countries should have national strategies for sustainable development in place by 2005, so that negative environmental trends can be reversed by 2015. The world's poor have a different perspective on matters.

They are carrying the cost of protecting the earth's biodiversity without seeing the economic and social benefits. 20% of us in the rich countries use 86% of the world's resources, and so our impact on the environment, our 'ecological footprint', is so much larger than those living in the economically poorer countries. They rely on their immediate environment and on precious resources through necessity, not greed. Increasingly, there are now calls for more sustainable methods of farming world-wide.

Wales and the World

The Assembly, in partnership with WWF Cymru, are organising a conference to raise awareness in Wales of the significance and relevance of the Johannesburg conference. This will take place in Cardiff on 28 February 2002. Wales has special reason to make sure we have an input at the Earth Summit, because of the Assembly's unique duty toward sustainable development. If Wales can show that we are committed to sustainable development, and has practical examples which demonstrate how the economy can thrive along with environmental protection, the conference in South Africa can be a showcase for Wales.

For more information phone Haf on 029 2045 4973.

Otters stay at YHA Capel-y-ffin *in the Brecon Beacons*

***Lesley O'Leary** says otters are using the Holt at Capel-y-ffin Youth Hostel!*

Capel-y-ffin, in the Brecon Beacons, regularly hosts family conservation weekends. At a recent event the participants helped to build a new home for the otters that were suspected to be using the river, which runs through the hostel grounds. Their hard work has been rewarded and otters are beginning to use the Holt as a resting place on the river. Paula, manager of Capel-y-ffin is delighted with the success of the project. 'It poured with rain during the weekend the Holt was built but all the families enjoyed themselves and I'm glad that their efforts have been rewarded so quickly'.

Capel-y-ffin in the Llanthony valley is one of three hostels that are developing conservation areas in their grounds. Llwyn-y-Celyn YHA near Libanus, is working closely with the National Park to create a woodland walk area, which is open to the public. There is a nature trail leaflet to guide you around the walk. Llanddeusant YHA has recently converted a section of land into a picnic and conservation area. There are nesting boxes and feeding sites around the picnic tales to encourage a close view of the birds. Red Kites are frequently seen from the spot.

Youth Hostels in the Brecon Beacons provide good value accommodation and good food to 20,000 visitors a year to the National Park. They also have numerous walking and cycling routes around and between the Hostels to suit people of all ages and abilities. Families staying at YHA Ystradfellte can explore the exciting and beautiful waterfalls on the Hepste and Mellte rivers.

For more information on the Hostels, conservation events and walking routes, please contact the YHA Cymru/Wales on 029 20 222122. (Mon – Fri, 9am-5pm). Contact for the Brecon Beacons National Park: **Bernard Watkins** on 01874 624437 Website: www.breconbeacons.org
YHA web site: www.yha.org.uk

Dyfrgwn mewn hostel ieuenctid

Mae dyfrgwn wedi dechrau defnyddio gwâl newydd mewn afon ar dir Hostel Ieuenctid Capel-y-ffin ym Mannau Brycheiniog. Cafodd y wâl ei chodi yn ystod penwythnos cadwraeth i deuluoedd – mae'r hostel yn un o dair yn y cylch sy'n creu llecynnau cadwraeth. Yn Llwyn-y-celyn ger Libanus, mae trocon coedwig ar agor i'r cyhoedd tra bod llecyn picnic a chadwraeth Llanddeusant yn rhoi cyfle i wylio adar, gan gynnwys y barcud.

New Biodiversity Information Service Established

The first local records centre (LRC) in Wales, known as the Biodiversity Information Service for Powys and Brecon Beacons National Park (BIS), is now nearing the end of its sixteen month establishment phase. It is hoped that BIS will act as a model for the development of a network of similar LRCs to cover the whole of Wales. The aim of BIS, and all other LRCs, is to make appropriate local biodiversity information available to those who need it, to ensure that decisions which may affect biodiversity are made in the light of best available knowledge.

In essence, BIS will provide a mechanism for collating, sharing and utilising the wealth of biological data and expertise which already exists in Powys and Brecon Beacons National Park. BIS will play a key role in satisfying the growing biodiversity information needs of its funding partners and other service users and in supporting related biodiversity initiatives such as local biodiversity action plans. Once the Welsh LRC network is complete, it will be possible to provide accurate information on the state of biodiversity in Wales in support of the functions of the Wales Biodiversity Group and the Welsh Assembly.

BIS is nearing the end of an intensive period of obtaining and collating existing biological datasets and incorporating them into its information systems. In order to obtain such datasets, extensive contact has been made with the key local organisations and the local recording community. The cooperation of these voluntary recorders is one of the most vital elements for the success of this project, so in return for allowing access to their records, BIS will enable local recorders to obtain various services including priority access to BIS databases for personal enquiries, regular reports of significant records, advice on gaps in BIS data holdings and un-recorded sites or assistance with local atlas production.

Another key group whose support and cooperation is vital for the success of BIS is its service users. This group comprises the organisations who supported the establishment of BIS as well as additional users such as utility companies and consultants. It is essential that BIS meets the needs and aspirations of its funding partners in order to receive the (hopefully long-term) financial commitment which is necessary to make BIS a success. After a period of consultation with key users, BIS has developed a series of standard and tailored products and services to meet their identified needs.Data security and the need to ensure that sensitive biological information does not get into the wrong hands is another key consideration for LRCs. BIS is operating within the framework of a number of policies and procedures which are based on national guidance from the National Biodiversity Network (NBN) on the running of LRCs.

The next stage in its evolution is for BIS to further develop its data holdings by strengthening links with voluntary recorders and to make appropriate information available electronically to the wider public as well as to professional users. Additionally BIS will actively participate in UK wide projects such as the NBN Gateway Project which aims to enable LRCs and professional users to access large quantities of biological data which is held centrally by national recording groups.

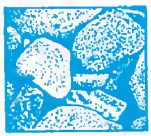
This is an exciting and challenging time for the BIS project. All involved are hoping that this pilot project will prove that LRCs are viable in Wales and that a Wales-wide network of LRCs will develop to underpin and enhance future biodiversity conservation efforts. If you would like further information on the Biodiversity Information Service for Powys and Brecon Beacons National Park please contact Adam Rowe at:
BIS, 1st Floor Offices, 4B Lion Yard, Brecon, Powys, LD3 7BA.
Tel: 01874 610881 E-mail: info@b-i-s.org

If you would like to lodge any records of any wildlife sightings from the Powys or Brecon Beacons National Park area with BIS, please send them to the above address stating the four essentials of a biological record – what? (species name), where? (preferably giving a 6-figure grid reference), when? (the date recorded) and who? (your name, address and other contact details). A form for lodging records is now available at www.b-i-s.org

Creu rhwydwaith amrywiaeth byd natur

Mae cynllun arbrofol yn y canolbarth yn arwain y ffordd at greu rhwydwaith o ganolfannau i gofnodi bioamrywiaeth trwy Gymru. Y nod yw casglu a darparu ffeithiau ac ystadegau i gefnogi'r gwaith o gynnal bioamrywiaeth Cymru. Elfen allweddol yng ngwaith y Gwasanaeth Gwybodaeth Bioamrywiaeth (BIS) ym Mhowys a'r Bannau yw cyfraniad mudiadau ac unigolion sy'n casglu cofnodion lleol.

Mae angen hefyd i gwrdd â gofynion cefnogwyr a defnyddwyr – cyrff sydd wedi noddi'r cynllun a chwmnïau ac ymgynghorwyr eraill. Tra'n sicrhau na fydd gwybodaeth sensitif yn mynd i'r dwylo anghywir, un o'r camau nesa' yw darparu gwybodaeth ar ddull electronig i'r cyhoedd. Mae cyfnod sefydlu'r cynllun yn Aberhonddu yn dod i ben fis Tachwedd eleni.



Marine *matters/Materion* morol

Stephen Westcott reports on the grey seal survey

I began the survey of Grey Seals in North Wales in January 2001 with a mixture of literature reviews, reconnoitring potential seal sites, visiting known sites and learning as much as possible from local people. By the end of February, it had become clear that the Grey Seals were assembling only at a relatively small number of sites. From that time onward, I have made at least two visits each month to eleven different sites. The purpose of the visits is to count the seals, noting the sex ratio and the number of sexually immature, juvenile seals that are present, how active they are and what they are doing.

While making these repeat visits, I continued to investigate other potential seal sites, including those previously found to be unoccupied. This was designed to monitor possible seasonal change, as well as variations in seal behaviour in response to wind direction and sea state. Although generally characterised as inhabitants of exposed rocky coasts in the British Isles, in fact they choose to haul-out on lee shores. Indeed, once dried out, they dislike being splashed or battered by waves.

I visit sites as close to the time of low tide as possible, when seal assemblies tend to peak. Low tide also offers cover for me to approach, unseen by the seals, to photograph individuals. Grey seals, especially females, each have a pattern of markings which is as unique to them as our fingerprints are to us. Photo-identification allows us, potentially, to compile crude life histories of certain individuals, tracking their movements along the coast and around sea areas and examining relationships with other seals. I hope to compile a photo-catalogue including every seal mother, so that in future years their fidelity to breeding sites can be examined.

This is an area where local people and 'experts' can work in partnership, which allows local people to play an essential and meaningful part in conservation – something I hold to be of crucial importance if conservation efforts are to be successful. In addition to fieldwork, I have made as much contact as possible with local fishermen.

In general, seals are not perceived to be other than an occasional, localised problem by fishermen – for example when drifting for bass. However, if there are fishermen experiencing 'seal problems' out there, please put them in touch with me. It is essential that their experiences and attitudes are recorded. In the search both for fishermen's views and for seals, I have attended Sea Fisheries Committee meetings, have talked with netters working out of Barrow-in-Furness and, at the time of writing, I am about to depart for five days in the Isle of Man. What does that have to do with Welsh Seals? Indeed, is there any such creature?

I see seals as 'belonging' to sea areas, around which they will have one or more 'home'. Seals are known to move between the coasts of Wales and Eire. Work using satellite tracking devices suggests that seals spend periods at 'home' localities and periods 'visiting the neighbours' – who may be 100 miles or more away – or else foraging for food out at sea. That may help explain why I shall be photographing seals on the Isle of Man and elsewhere, hoping that the results will confirm my instinct, that there is exchange of seals between the Lake District, Isle of Man, Eire and North Wales, as well as places farther afield. Indeed, seals released after veterinary care at the Welsh Mountain Zoo, Colwyn Bay, have been observed both locally, at Ynys Enlli, and as far abroad as Cornwall and North Uist.

Is there such a creature as a 'Welsh' grey seal? The first pup of the season was born in a sea-cave on the Llŷn Peninsular on the morning of 1 August. Close by lay the still-warm placenta. The mother lay among seaweed-covered boulders at the cave entrance. She was totally blind. Nevertheless, despite this handicap, she will be able to raise her pup to the point of weaning. Mother and pup will then make their way separately in the world.

During autumn and winter, I shall continue making visits to assembly sites while concentrating on finding every pup born between Aberystwyth and the Dee estuary. If you find a white-coated pup or hear of one, please let me know!

Stephen Westcott can be reached on 07967 702552.

Mesur y morloi

Ers dechrau'r flwyddyn mae **Stephen Westcott** yn cadw llygad manwl ar forloi llwyd yng ngogledd Cymru. Trwy dynnu lluniau o batrymau ar eu cyrff – sydd mor unigryw ag olion bysedd – mae'n ceisio olrhain symudiadau unigolion. Mae'n gobeithio cadarnhau ei ddyfaliad fod morloi'n symud tros ardal eang o fôr rhwng Cymru, Iwerddon, Manaw a gogledd Lloegr. Mae hefyd yn apelio am help y cyhoedd er mwyn ceisio cofnodi pob cenau morlo o Aberystwyth i lannau Dyfrdwy.

Nature *at large*/Natur *y byd*

***Frances Cattanach** provides a round-up of mammal news in Wales.*

Pine martens continue to frustrate conservationists in Wales. Chris Hall reports that in August, in Cwm Pennant, near Porthmadog, North Wales a sighting of a 'brownish animal with a creamy yellow chest, a bushy tail, pointy face, perky ears, beady eyes, athletic build and movement' was made by someone familiar with seeing martens in broad daylight. A year ago, near Pensychnant Conservation Centre, Conwy, a pine marten was sighted by the warden's brother on the Roman road between Rowen and Llanfairfechan. Still no hard evidence, but the indications are that they are living in low numbers in our hills. If you have information on sightings, please contact your local Wildlife Trust.

In Brecknock, Phil Morgan received 114 mammal sightings in the first six months of 2001, including some welcome ones for common species. Of the four otter sightings in the period, one was of a live otter in someone's garden. Here the enterprising animal had resorted to the fast food opportunity provided by the garden pond. Sadly Phil also had a report of yet another road death and concern continues to grow over the numbers lost on the roads of Wales. Lin Gander reported that two otters were killed within 6 days of each other at the same spot on the Cardigan to Tenby road near Cilgerran. Corpses are being picked up all over Wales and taken to Cardiff University for post-mortem.

In north Wales, the Wildlife Trust has a freezer for corpses so that they can be kept relatively fresh until they can be analysed. Road-kill data is helping to identify accident black-spots, which are usually where the road crosses a water-course. In some cases simple alterations to the bridge can solve the problem, so please report all road casualties. In Colwyn Bay, some polecat kits abandoned by their mother were picked up by the RSPCA. After a few weeks of care and attention, and the insertion of a microchip, they are being released at the nearby Pensychnant Conservation Centre. They will be fed in a cage for a week, and then fed for a few more weeks, with the door of the cage open. The microchip can identify the individuals if they are picked up and post-mortemed, so please contact your local Wildlife Trust if you find a corpse.

Back to live mammals, the Glamorgan Wildlife Trust is working hard to determine the distribution of two of our most elusive mammals, the dormouse and harvest mouse. The current distribution of the dormouse in Glamorgan is a 5km band along the southern edge of the coal-fields and an isolated population on the Gower. They are likely to be present further afield than this, and the Trust is keen to locate them south of the M4. A recent report by the Vincent Wildlife Trust of a Wales survey from 1997-2000 shows dormice to be present in 68 10km squares in Wales, showing a 70% increase over the last distribution map (1993). The report's authors stress that this reflects improved recording rather than an increase in the range of the dormouse in Wales.

The most widely used method for identifying the presence of dormice is by searching for hazelnuts eaten by dormice. The authors identify the need to develop other survey techniques which will pick up records where fruiting hazel bushes are not present. In the meantime, if you can help any of the Wildlife Trusts in their Great Nut Hunts this autumn and winter, please contact them.

The elusive pine marten.

Glamorgan Wildlife Trust's efforts to locate the even more elusive harvest mouse are being assisted by a donation of used tennis balls from Wimbledon. The balls have a 16mm hole drilled into them, are stuffed with millet, and fixed off the ground in sites where harvest mice are suspected. If the millet is eaten, but the hole is not enlarged, a harvest mouse has probably had a free meal.

The North-west Riparian Mammal Group (a partnership of organisations including North Wales Wildlife Trust, CCW, Menter Môn, Environment Agency and the local authorities) has appointed a Water Vole Project Officer. She will be carrying out monitoring across Anglesey, to track the success of the population, improve their habitat and keep an eye on the threat of any mink intrusions onto the island. Jean Matthews of Gwynedd Bat Group reports the exciting discovery of a greater horseshoe bat roosting in a mine, also used by up to 28 lesser horseshoe bats at the northern end of the Conwy Valley. There are roosts of greater horseshoe bat in South Wales, but until this recent discovery, the most northerly record for Wales in recent times was of individuals hibernating in mines in Powys and the south of Clwyd. The number on the bat's ring was traced back to a bat worker in Gloucestershire.

The bat – a male – had been born at Dean Hall, near Cinderford, Gloucestershire at end of June 1999 and was ringed there on 4th July 1999. The passing on of mammal sightings to local mammal recorders or Wildlife Trusts is a very valuable way of helping to swell our knowledge of the status of Welsh mammals. The process is being helped by the establishment of Local Records Centres in Wales, the first of which has been set up to serve Powys and the Brecon Beacons National Park. The mammal records for Vice County 42 were among the first data sets to be included on the database.

If you would like further information on local mammal contacts or would like to contribute information to the next article in *Natur Cymru* please contact me, Frances Cattanach on 01248 351541, or e-mail; nwwt@cix.co.uk. My thanks to all who have contributed to this article.

Frances Cattanach is Manager for the North Wales Wildlife Trust.

Mamaliaid – y newyddion

- Mae awgrym, os nad tystiolaeth bendant, fod nifer bychan o fele'r coed yn y bryniau.
- Mae pryderon trwy Gymru am nifer y dyfrgwn sy'n cael eu lladd ar y ffyrdd – bydd llawer yn digwydd lle mae ffordd yn croesi dŵr.
- Cafodd ffwlbartiaid bach eu hachub a'u rhyddhau gan yr RSPCA yn Mae Colwyn – trwy roi sglodyn meicro ynddyn nhw, bydd modd adnabod eu cyrff.
- Peli tennis o Wimbledon sy'n helpu i ddarganfod rhagor o lygod medi yn Morgannwg – mae bwyd yn cael eu gosod ynddyn nhw gydag agen digon mawr i'r llygod.
- Dechreuodd Swyddog Cynllun Llygod Dŵr ar ei gwaith yn Ynys Môn.
- Mae'r ystlum pedol mwyaf wedi'i gofnodi yn ei gartref mwya' gogleddol erioed yng Nghymru, yn Nyffryn Conwy.

Tim Rich *and* **Ray Tangney** of the National Museums & Galleries of Wales report on plant news

Wales is particularly rich in *bryophytes* (mosses and liverworts). With more than 750 species known for Wales, this represents approximately three quarters of the total known for the UK and Ireland.

Following his *Flora of Radnorshire*, Ray Woods is now working on a *bryophyte* flora of Breconshire. A recent meeting of the British Bryological Society in Abergavenny in support of this flora included field trips in both Breconshire and Monmouthshire. This yielded a number of new vice-county records. Most notably, the liverwort *Frullania microphylla var. deciduifolia* was discovered in only its second known British locality on the sandstone cwm walls and rock ledges at Craig Cerrig Gleisiad. This and other bryological work continues to add to our knowledge of the Welsh bryophyte flora. Other recent notable finds were of two nationally scarce mosses, *Grimmia mantana* in Pembrokeshire, a considerable distance from its older known sites in eastern mid-Wales, and in Radnor, the discovery of the unusual moss *Buxbaumia aphylla*.

Among flowering plants, the find of the year has probably been the discovery of Tufted Loosestrife *Lysimachia thyrsiflara* in a marsh in a relict oxbow in Glamorgan. It has every appearance of being native in the locality, though as it is occasionally introduced elsewhere in the UK, an alien origin cannot be ruled out. Almost as exciting is the discovery in Pembrokeshire of the hybrid intermediate between the common Trailing St. John's-wort *Hypericum humifusum* and the very rare Toadflax-leaved St. John's-wort *H. liniariifalium*. Three populations have now been found, and more may follow. This is significant because the Toadflax-leaved St. John's-wort is known from S.W. England and Caernarfon, but has not been found in between. Did it once occur in Pembrokeshire but has been hybridised out of existence, or is it still there but over-looked? Further investigations are continuing.

The very rare Small Restharrow *Ononis reclinata* had a good year, with three flowering plants on Worms Head in a site where it had been seen only once before. It occurs in a number of tiny populations scattered along the Gower coast, and some years does not appear at all. A hawkweed collected by P.M. Benoit in 1978 from a ravine near Beddgelert in Snowdonia has turned out to be the Neath hawkweed, *Hieracium nidense*. This is the second north Wales site for this rare endemic which is otherwise only known in three sites in Brecon. The hybrid between the Creeping thistle *Cirsium arvense* and the Marsh thistle *C. palustre* was found at Caerau, Maesteg in V.c. 41. There are about five previous Welsh records, and it is an astonishing rare hybrid for the frequency with which the parents grow together.

Newyddion planhigion

Dyma rai o bigion y flwyddyn: Dod o hyd i'r Trewynyn Swpflodeuog mewn cors ym Morgannwg. Darganfod blodyn cymysgryw yn Sir Benfro – rhwng yr Eurinllys Mân Ymdaenol a'r Eurinllys Culddeiliog prin sydd i'w gael yn Ne Lloegr a Chaernarfon ond yn unman yn y canol. Cael enghreifftiau newydd o'r Tagaradr Bach, Heboglys Nedd a phlanhigyn cymysgryw rhwng Ysgallen Gyffredin ac Ysgallen y Gors. Gwaith newydd ym maes mwsogau a llysiau'r afu. Daethpwyd o hyd i enghreifftiau prin iawn ac mae Ray Woods yn gweithio ar lyfr am bryoffytau Brycheiniog.

Natur *mewn gwarchodfeydd*

Yma mae **Paul Williams**, warden Gwarchodfa Natur Genedlaethol Cader Idris yn adrodd ar gyfres o arolygon a gwaith diweddar ar y mynydd.

Cader Idris yw'r mwyaf deheuol o fynyddoedd Eryri ac mae tua 450 hectar ohono dan reolaeth Cyngor Cefn Gwlad Cymru fel Gwarchodfa Natur Genedlaethol. Y mae'n safle arbennig gan fod yma nifer o blanhigion a chreaduriaid sydd ar eithafion eu dosbarthiad, fel effros yr Wyddfa, *Euphrasia rivularis* a'r hesgen ddu, *Carex bigelowii* sydd yn eu safle mwyaf deheuol yma. Ar y mynydd hefyd mae'r aurfanadl blewog, *Genista pilosa* sydd ar ffin ogleddol ei ddosbarthiad!

Mae 98 rhywogaeth o arachnid wedi eu cofnodi yn y warchodfa (81 copyn, 5 medelwr ac un ffug-ysgorpion) ac yn ystod arolwg diweddar gan staff y Cyngor a gwirfoddolwr, cofnodwyd sawl un nodedig ymysg creigiau'r copa gan gynnwys cofnod newydd pwysig o'r copyn mynyddig *Neon robustus* a chofnod cyntaf Cymru ers y 1930au o *Pardosa trailli*. Mae rhywfaint o wybodaeth gennym ar chwilod y mynydd hefyd, ond mae llawer iawn o waith i'w wneud eto i ganfod cyfoeth llawn y safle.

Trwy gyfuniad o arolygon proffesiynol a chwilota gan wirfoddolwyr, mae gennym ddarlun eithaf da bellach o amrywiaeth llystyfiant y warchodfa a lleoliadau y rhai mwyaf nodedig, yn flodau, rhedynnau neu fwsoglau. Ar y warchodfa mae sawl cymuned o lystyfiant sy'n ei gwneud o bwys Ewropeaidd gan gynnwys y llethrau sgri a'r tyfiant tal a chyfoethog sydd ar y clogwyni, ymhell o gyrraedd y ddafad fwyaf mentrus. Yma ceir arddangosfa wych o flodau fel yr eurwialen, tormaen llydandroed, pren y ddannoedd a suran y mynydd, ac ar y silffoedd mwy llaith ceir erwain, cronnell a'r tormaen serennog mewn haen o figwyn a mwsoglau toreithiog, gyda rhedynach teneuwe Wilson ar y creigiau gwlyb. Ar y clogwyni y gwelwch hefyd flodau a gysylltir gan amlaf gyda'r arfordir, fel clustog Fair a'r llwylys.

Yng Nghwm Cau, gwelir rhostir grugog, sych a gwlyb, gan gynnwys yr enghreifftiau gorau y tu allan i'r Alban o rostir gwlyb prin a elwir yn H21b yn ôl Dosbarthiad Cenedlaethol Llystyfiant yr NVC. Mae hon yn gymuned laith o rug cyfreddin, llus a migwyn, sy'n arbennig o gyfoethog mewn mwsoglau a llysiau'r afu. Tyf ar bridd tenau y llethrau serthaf sy'n amgau Llyn Cau.

Un o'r prosiectau eraill a wnaed eleni oedd ailadrodd monitro'r llystyfiant mewn pedair llain amgaeëdig a'u cymharu â'r hyn sy'n tyfu gerllaw, lle mae'r defaid yn pori. Cynllun tymor hir yw hwn, a gobeithiwn fedru ymestyn yr arbrawf yn y dyfodol.

Yn ddiweddar iawn mae arolwg o gennau y warchodfa wedi nodi sawl ardal o ddiddordeb yn y goedwig a'r ceunant wrth odrau'r mynydd. Bydd cyflwr y rhain, yn ogystal â nifer o rywogaethau nodedig sydd wedi eu canfod ar yr ucheldir yn cael eu monitro yn y dyfodol. Wythnosau ynghynt canfuwyd gan wirfoddolwyr gen nas gwelwyd o'r blaen ar y mynydd, a hwnnw ar ei safle mwyaf deheuol hefyd.

Yn ein gwaith o reoli'r warchodfa drawiadol hon ar ran y genedl, rydym yn dal i ddysgu o hyd. Mae ymchwil diweddar iawn gydag offer electronig, gan Bartneriaeth Llwybrau'r Ucheldir, yn awgrymu bod tua 90,000 o bobl yn ymweld â'r mynydd yn flynyddol, ond rhaid cydnabod nad dod yno i weld y warchodfa mae'r rhan fwyaf; yn hytrach cyrraedd y copa yw'r nod. Byddwn yn gwneud ymdrech deg i roi mwy o wybodaeth am ein gwaith, ac yn fwy effeithiol, i'r gynulleiddfa barod hon.

Nature *in reserve*

Paul Williams, warden of Cader Idris National Nature Reserve reports on a series of surveys and monitoring projects, by both professionals and volunteers. A total of 98 arachnid species have been recorded. Recent surveys have increased our knowledge and understanding of the reserve's vegetation as well as identifying lichen habitats of great interest.

Recent figures tell us that about 90,000 people visit the mountain annually, most of whom have only the summit in sight. CCW and its partners hope to co-operate in future to improve their ways of telling this audience about their work.

For photographs and illustrations, thanks to/diolch am y lluniau i:

Celtic Picture Library, Mike Cullen, Kathy De Witt, Jack Donovan, D. Elias, English Nature, P.H. Evans, Liz Fleming-Williams, John Fursdon, Mike Hammett, Peter Hope Jones, Mandy Marsh, Archie Miles, Jeremy Moore, Lesley O'Leary, Picture Post, Alastair Robertson, J.B. Ratcliffe, Peter Rhind, K. Richardson, David Saunders, Clive Walmsley, Paul Williams, David Woodfall, Ray Woods.

£3.50